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Ron R. Wallace

Dominion Ecological Consulting, Ltd.

Calgary, Alberta

Federal Environmental Assessment Review Office

Canada

PUBLIC INPUT TO GOVERNMENT DECISION MAKING

Ron R. Wallace
Dominion Ecological Consulting, Ltd.
Calgary, Alberta

FOREWORD

In 1985, the Federal Environmental Assessment Review Office (FEARO) funded an unsolicited proposal submitted by Dominion Ecological Consulting Ltd. of Calgary, Alberta. The purpose of the work was to determine the effect of the Federal Environmental Assessment and Review Process (EARP) on government decision making. The approach taken by the author was to review, classify and analyse all Environmental Assessment Panel recommendations, to examine more closely the results of five selected case studies, and to conduct interviews with selected persons involved in these review processes. The methodology for conducting this investigation was developed by Dr. Wallace in consultation with FEARO but its implementation and reporting was solely the responsibility of the author.

The main findings of the report are that the process, in most cases, "has worked to enhance the co-ordination and delivery of government services while providing a neutral forum with significant public access". Dr. Wallace found that panel reports had "a profound effect" on participating government agencies resulting in increased communications with one another and the development of mechanisms needed to deal with the projects being revised. Moreover, these beneficial exchanges among various agencies have taken place in a public forum which has simultaneously provided significant public participation and consultation.

With reference to the jurisdictional overlaps associated with these review processes, such as the National Energy Board review of energy projects, Dr. Wallace concludes that these "complementary" processes can be beneficial in conducting such reviews. Similarly he notes that the "several significant drawbacks" of EARP are "less significant than the advantages provided by the Process for inter- and intra-governmental co-ordination and public consultations".

Finally, and perhaps most significantly, Dr. Wallace notes that the major benefits of EARP have been achieved because it has been a "highly adaptable changing mechanism". In short, the flexibility designed into the process has allowed it to evolve and to achieve the benefits described. Dr. Wallace is quite emphatic that the results of his investigation were found to be surprisingly positive and that the conclusions drawn here were forced upon him by the research undertaken.

Since the main purpose behind funding this study was to undertake a critical review of the past history of EARP, in order to improve the process, and not to produce a self-serving document, this report was subjected to several independent reviews.

Some reviewers have argued that, while some criticisms of EARP are mentioned in the report, they are not presented in sufficient detail and are not responded to appropriately. Hence, the conclusions reached by Dr. Wallace may all be correct but the arguments presented to support them do not address contrary views adequately. It is felt that some persistent critics of EARP and some others, who were not totally satisfied with the outcome of particular reviews, were not consulted during this investigation.

Notwithstanding these concerns, FEARO believes that there is a substantial amount of information presented in this report which should be made available to the public and to the environmental impact assessment community.

For further information, please contact:

M.H. Sadar
Scientific Advisor
Federal Environmental Assessment Review Office
13th Floor, Fontaine Building
Hull, Quebec K1A 0H3
CANADA

The process of environmental impact assessment should not end with the production of a report. It is our contention that an EIS must become as much a document of future commitment and responsibility as it is a summary of past and predicted environmental events.

Gordon E. Beanlands and Peter N. Duinker.
An Ecological Framework for Environmental Impact Assessment in Canada.

Two of the problems identified earlier in this report are the present reactive regulatory process of decision making respecting resource conservation, and weaknesses stemming from institutional competition between government departments and agencies. To bring about change, a more forward-looking action-oriented approach by government is required so as to make possible the sound management of our many resources on an integrated basis. Some restructuring of institutions and organizations seems essential to create the environment within which such change could occur.

Task Force on Northern Conservation.

The Federal Environmental Assessment Review Office should institute a follow-up mechanism to evaluate and report on the degree to which the Panel's conclusions and recommendations have been accepted and acted upon.

Report of the Environmental Assessment Panel: Eastern Arctic Offshore Drilling, South Davis Strait Project

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Many individuals generously contributed both their time and comments in the consultations done for this research study. Bob Weir (EPS, Ottawa) and Susie Washington (Banff Centre School of Management) kindly provided background research papers for the case studies. Mary Margaret Healy (FEARO, Ottawa) assisted in the compilation of appropriate documentation from FEARO. Charles Thompson and Kathy Strong-Duffin (Dominion Ecological Consulting, Ltd.) helped to prepare the initial data analyses. Charlene Upham typed the manuscript through its several drafts and Gillian Hobbs provided useful comments throughout.

The individuals listed in Appendix III provided a wealth of information during personal interviews or through written communications. Their insights and experiences significantly enriched the study.

Gordon Beanlands, Patrick Duffy, Robert Connelly, John Herity, Philip Paradine and Paul Scott of FEARO provided guidance and advice during the research for the report.

Special thanks are due to David Marshall and M. Husain Sadar for their support during the formulation and completion of the research.

While significant insights were gleaned from many individuals during the course of the project, the author accepts full responsibility for the interpretation of data and conclusions reached.

ABBREVIATIONS

APP	- Arctic Pilot Project
CARC	- Canadian Arctic Resources Committee
COGLA	- Canadian Oil and Gas Lands Administration
CPR	- Canadian Pacific Railway
DFO	- Department of Fisheries and Oceans (Fisheries & Oceans Canada)
DIAND	- Department of Indian Affairs and Northern Development
DOE	- Department of the Environment (Environment Canada)
DOT	- Department of Transport
DPW	- Department of Public Works (Public Works Canada)
EACAMT	- Environmental Advisory Committee on Arctic Marine Transportation
EAMES	- Eastern Arctic Marine Environmental Studies
EARP	- Environmental Assessment and Review Process
EIA	- Environmental Impact Assessment
EIS	- Environmental Impact Statement
EMR	- Energy, Mines and Resources Canada
EPS	- Environmental Protection Service
FEARO	- Federal Environmental Assessment Review Office
GNWT	- Government of the Northwest Territories
IPL	- Interprovincial Pipelines Limited
LNG	- Liquefied Natural Gas
NEB	- National Energy Board
NEPA	- National Environmental Protection Act (USA)
NWPCO	- Norman Wells Project Co-ordination Office
RMP	- Resource Management Plan (Consolidex)
SIA	- Social Impact Assessment
SRCP	- Special Recovery Capital Projects
TCH	- Trans-Canada Highway
TCP	- Trans-Canada Pipeline

EXECUTIVE SUMMARY

The federal Environmental Assessment and Review Process (EARP) has, between its inception in 1974 and 1 January 1985, produced 26 Panel reports on 18 different projects referred by proponent departments. During that time, EARP has provided a unique forum for decision-making processes among developer-proponents and between government departments at federal, provincial and territorial levels. EARP has proven to be a highly adaptable, changing mechanism for seeking out opinions from individuals, communities and agencies on controversial development proposals. While many past studies have focused on individual reports, overview studies on the Process itself have become possible given the growing base of data from accumulating panel reports.

The present study assesses the degree to which recommendations made by Environmental Assessment Panels have influenced the federal decision making process. This is done principally by analysis of five case studies. The case studies were chosen to determine the ultimate effectiveness of EARP reports in several well-defined arenas:

- a review of a site-specific project affecting few federal agencies (Banff Highway Project);
- a review of a large, site-specific (linear) project involving federal and territorial agencies (Norman Wells Oilfield Development and Pipeline);
- a broad, regional review in an area of primarily federal (with some territorial) jurisdiction involving many federal agencies which assessed a regional development proposal (Arctic Pilot Project);
- a broad, regional review in an area involving many federal agencies and assessing a site-specific development proposal (Lancaster Sound Drilling); and,
- a review of a large, regional project involving several federal and provincial agencies (Venture Development Project).

In each of the case studies, the panel report exerted a profound effect on proponent developers, proponent departments or associated federal, provincial or territorial agencies. Indeed, in many cases, significant adjustments occurred in project scheduling, project development plans or in the role(s) of agencies involved in subsequent regulation of the work. In most cases, the review process has worked to enhance the co-ordination and delivery of government services while providing a neutral forum with significant public access.

One of the major benefits of EARP is that it provides an arena for major government departments to openly consult, communicate and begin to negotiate future roles, responsibilities and involvement in projects. The force of open scrutiny, in a forum open to members of the general public, appears to have facilitated the resolution of jurisdictional responsibilities and roles in project developments. At the same time, confusing government roles and mandates tend to be clarified for the public. The time expended in public consultations probably compares favourably with similar processes for decision making which occur in camera among government agencies, especially when many departments are involved with projects of public (political) sensitivity. Importantly, Environmental Assessment Panel consultations allow government agencies and interest groups to assess proposals without concerns over conflicts of interest. Each is free to represent their mandate in a public review.

Public consultation (local, regional or national) on important development issues has been enhanced by the Process. Indeed, if it is a priority to have the federal government consult with provincial, territorial and public interests before major development decisions are reached, the EARP public consultation process provides a significant alternative for policy makers. The non-adversarial, open format of EARP public meetings, while not providing opportunities for legal cross-examination, tend to facilitate public access to proponent developers and government agencies.

Critics have pointed out several drawbacks and jurisdictional overlaps of the Process. In the main, however, these are believed to be less significant than the advantages provided by the Process for inter- and intra-governmental co-ordination and public consultations. Moreover, EARP studies have allowed subsequent regulatory agency hearings to more quickly focus on issues of consequence. As such, EARP is seen as an important part of a continuum of Canadian mechanisms for decision making. Agencies such as NEB and FEARO each have different roles and strengths which, through co-ordination, can be complementary. Recent initiatives, evidenced by the Resource Development Policy of the Government of the Northwest Territories, may provide further avenues for incorporation of significant elements of EARP reviews within territorial processes. This type of "co-evolution" could facilitate the process of decision in the North. Collaborative efforts between EARP and relevant provincial agencies for specific project reviews may also afford opportunities for consultation or to more efficiently develop bases of information for decisions on project options.

In general, the establishment of ongoing review committees after Environmental Assessment Panel reports has tended to significantly favour the probabilities for continued intergovernmental co-operation and the implementation of panel recommendations. Future studies could usefully examine other alternatives for post-panel assessments. Panel reports which have led to the establishment of mechanisms for continuing liaison have often enhanced the work of government agencies. Such interactions allow regulators and proponents to incorporate advances into subsequent phases of the development. Indeed, "phased developments" appear to improve opportunities for successful implementation of a Panel's recommendations.

Panel recommendations which have been formulated for specific projects tend also to enjoy a higher degree of success. The less well-defined the project, or the more general the recommendation, the lower the probability for implementation.

In many cases, it is considered that the existence of EARP has required government departments to factor environmental and/or socio-economic concerns into their decision-making processes. Although difficult to assess, this may be of one of the primary influence of EARP on Canadian decision making, in both the public and private sectors. The flexibility and relative informality of EARP has allowed it to make necessary changes in order to better accommodate intergovernmental collaboration and public consultations. It is ironic that the ability of EARP to accommodate the needs and wishes of public interests may contribute to high public expectations of panels. These expectations may often exceed the terms of reference of an individual panel, or of the Process itself.

1. INTRODUCTION

The Canadian federal Department of the Environment was created in 1971. As early as 1972, discussions took place within the federal government that explored the possibilities for an environmental impact assessment (EIA) process. These efforts culminated in the establishment of the Environmental Assessment and Review Process (EARP) in April 1974 (Couch et al. 1981).

EARP is mandatory for all federal departments and voluntary for certain Crown corporations and regulatory agencies. It applies to federal programs or activities and to proposals where federal lands, properties or funds are used, or regarding which there is a necessary federal government decision making responsibility. The administering agency of EARP is the Federal Environmental Assessment Review Office (FEARO) which maintains an arms-length relationship with Environment Canada and yet reports directly to the Minister of the Environment (Couch et al. 1981). EARP was not established by legislation. Instead, the federal government issued a policy to set out the purpose, objectives and procedures to be followed by the Process. In 1977, further changes were made to the policy which made provision for the inclusion of an Environmental Assessment Panel of individuals from outside the federal services and which strengthened the requirements for early public information. In June 1984, the Government further amended the Process by issuing, as authorized by the Government Organization Act of 1979, Guidelines "respecting the implementation of the federal policy on environmental assessment and review ..." (Canada 1984).

FEARO is responsible for co-ordination between federal departments or agencies in matters relating to EIA while providing advice on the methods for screening of proposals and on the application of EARP. Significant projects are referred to the Minister of the Environment for formal, public reviews by an Environmental Assessment Panel so appointed. An important feature of the EARP approach is that it relies heavily on technical expertise available within federal government agencies, such as Environment Canada or Fisheries and Oceans Canada. Further, it is non-judicial (yet allowing for full public participation) and is based upon the principle of self-assessment (government agencies must first carry out their own initial environmental evaluations of the proposed activity).

As the process is not regulatory in nature (based on statutes), procedures are not rigidly prescribed. Thus, considerable scope in procedure is allowed. Independent panels carry out reviews of major projects in a public forum and scrutinize environmental impact assessments subject to intervention from public interests. The final report of an Environmental Assessment Panel is made, as advice, directly to the Minister of the Environment and to the Minister of the initiating department.

Public consultation has assumed increasing importance in the past decade and this trend does not appear to be diminishing. EARP has influenced decisions made in the private and public sectors and has become identified as one method by which governments can identify concerns in the public interest. FEARO has acknowledged this role: "... open decision making and full public consultation can contribute in a major way to that goal (growth in confidence in our basic institutions) and I am determined that EARP should play its part in this wider objective." (Robinson 1982).

Since 1974, 26 major projects have been referred for formal review by EARP. From 1977 to December 1984, 306 days of public meetings were held with an audience total of 31,960 and to which 2,748 presentations were made (personal communication, Dr. M.H. Sadar, FEARO, Ottawa).

The 26 formal reports provide not only a valuable chronology of the development of the Process, but a base for comparative analyses. Each Environmental Assessment Panel report has had various impacts on the decision-making processes of both government and proponent alike. Those impacts have been shaped by the types of recommendations made and by the receptiveness of those influenced by them.

In order to assess the degree to which EARP reports have contributed to federal decision making, a comprehensive assessment was made of 26 reports and detailed case studies were done of selected reports. In addition, the literature was reviewed so as to review options and alternatives for public consultations in Canada.

Interviews were conducted with individuals from across Canada who have been involved with the Process. Chairmen and members of panels, federal civil servants, and individuals from industry and universities were consulted in the formulation of conclusions for the study (see Appendix III).

The role and processes of decision making in Canada, particularly as applied to environmental and socio-economic impact assessment, has increasingly become a topic for research. Many aspects have been examined including the impact of government on scientific institutions (Wallace 1981a,b) and the influence of the scientific community on government policy and decision making (Wallace 1984).

Although several studies have examined the structure and function of the Process itself, few have examined its output - the panel reports and recommendations contained therein. This is somewhat ironic because, since its inception, EARP has provided a wealth of material to which research studies could be applied.

Also, surprisingly, while FEARO has been a primary agent for public consultation on environmental and socio-economic issues in Canada, few research studies have been conducted on the impact of the Process on decision making. This report is an attempt to review the conclusions reached by Environmental Assessment Panels over the past decade, with a view to assessing their long-term influence on Canadian institutions and project developments.

2. AN OVERVIEW OF RECOMMENDATIONS MADE THROUGH THE FEDERAL ENVIRONMENTAL ASSESSMENT AND REVIEW PROCESS

The recommendations from the first 24 of the 26 panel reports produced between 1975 and 1985 are summarized and categorized in this section. Reports 25 and 26 (Beaufort Sea Hydrocarbon Development, July 1984 and Port of Quebec, September 1984, respectively) were not included in the analysis, as it was considered that insufficient time had elapsed since the release of those reports to properly gauge their impacts on the federal decision making process.

Key features of EARP are summarized in Table 2-1. Each federal department is subject to a mandatory assessment of major development proposals. The system permits subsequent referral to the Minister of the Environment for formal review. Non-regulatory (public sessions or community consultations) proceedings allow for extensive public participation in the process, without recourse to legal assistance or advice. The process is capable of a flexible response regarding public sessions and, being non-regulatory in nature, is free to seek out views regarding proposals of interest to each panel.

The final report, submitted to the federal Minister of the Environment and the initiating minister, is advisory in nature and may cover a wide range of environmental and socio-economic issues.

Before detailed examinations and case studies were attempted, an overview of all recommendations from previous panel reports was completed. This analysis was carried out so as to provide a better understanding of the Process and a base of data for intercomparisons of the impacts of panel reports on federal decision-making bodies. The detailed overview provided appropriate case studies for the more specific aspects of the research.

Appendix I lists the 26 reports. All the recommendations from 24 of those reports were extracted and grouped by category. The resultant analysis, shown in Appendix II, provided an initial basis for quantification of the results from the panel reports. Moreover, it provides an analysis of the overall process as it has functioned to date: in the past, attention has generally been focused on each report by itself. Here, trends resulting from the Process and reports so produced are illustrated and compared on a base of data which extends over approximately one decade.

The analysis, although exhaustive, is not considered to be definitive due to the subjective nature of the interpretations made in each category. (For instance, each recommendation is enumerated with equal weight. Some panels made more detailed lists of recommendations than other, particularly earlier,

TABLE 2-1 AN OVERVIEW OF THE CANADIAN ENVIRONMENTAL ASSESSMENT AND REVIEW PROCESS

KEY FEATURES OF THE ENVIRONMENTAL ASSESSMENT AND REVIEW PROCESS	IMPLICATIONS OF FEATURE
I. Mandatory for all federal departments	Each department examines impacts of the proposed project and seeks a referral to FEARO for a formal review.
II. Voluntary for certain Crown corporations and regulatory agencies	The system is flexible in that it contains provisions for a variety of approaches, each determined by the proposal.
III. Non-regulatory proceedings	Public sessions and community consultations are open to, and accessible by, a wide public without a need to seek recourse to legal or technical advisors.
IV. Public sessions flexible	The flexibility allows for accommodation to various project and community needs; the panel is free to seek appropriate audiences.
V. Final report advisory	The Process is free to consider various approaches to each project, and government is able to develop flexible, suitable responses in order to meet panel recommendations.

panels). The data presented in Appendix II, however, allow for a comparative, quantitative analysis and are available for re-evaluation by future researchers. Table 2-2 summarizes by category those data presented in Appendix II, and they are graphically displayed in Figure 2-1.

Several aspects of the 24 reports are immediately apparent from Table 2-2. First, the recommendations are oriented toward specific aspects of the project under review.

Modifications in, or suggestions related to, the project (i.e., C-II) accounted for the greatest number of recommendations. The next largest sub-category (Future Research - BII) accounted for the second most frequent number of recommendations (76). Within the major category of "Research and Monitoring", Panels were also highly disposed toward recommendations on future monitoring (40) and future planning (34). In total, 314 recommendations were found to occur within the categories of "Research and Monitoring" and "Project Modifications" which constitute 71.7% of the total (438) recommendations assessed. We conclude that panels have closely addressed their recommendations to the project at hand and have, as a general rule, found many areas in which modifications to the project could be formulated. Further, much consideration has been given to research, monitoring and planning resulting from the projects under review.

In general, it would appear that those projects chosen for evaluation have needed careful, further consideration of operational aspects. Further, many panels have recommended more research in order to properly predict and control subsequent impacts.

While panels have contributed a significant number of recommendations toward improving, or altering projects under consideration, on only three occasions have recommendations been made to stop, defer or relocate, projects (Lancaster Sound, FEARO 1979) and the two proposed Eldorado Uranium refineries (FEARO 1979; 1980).

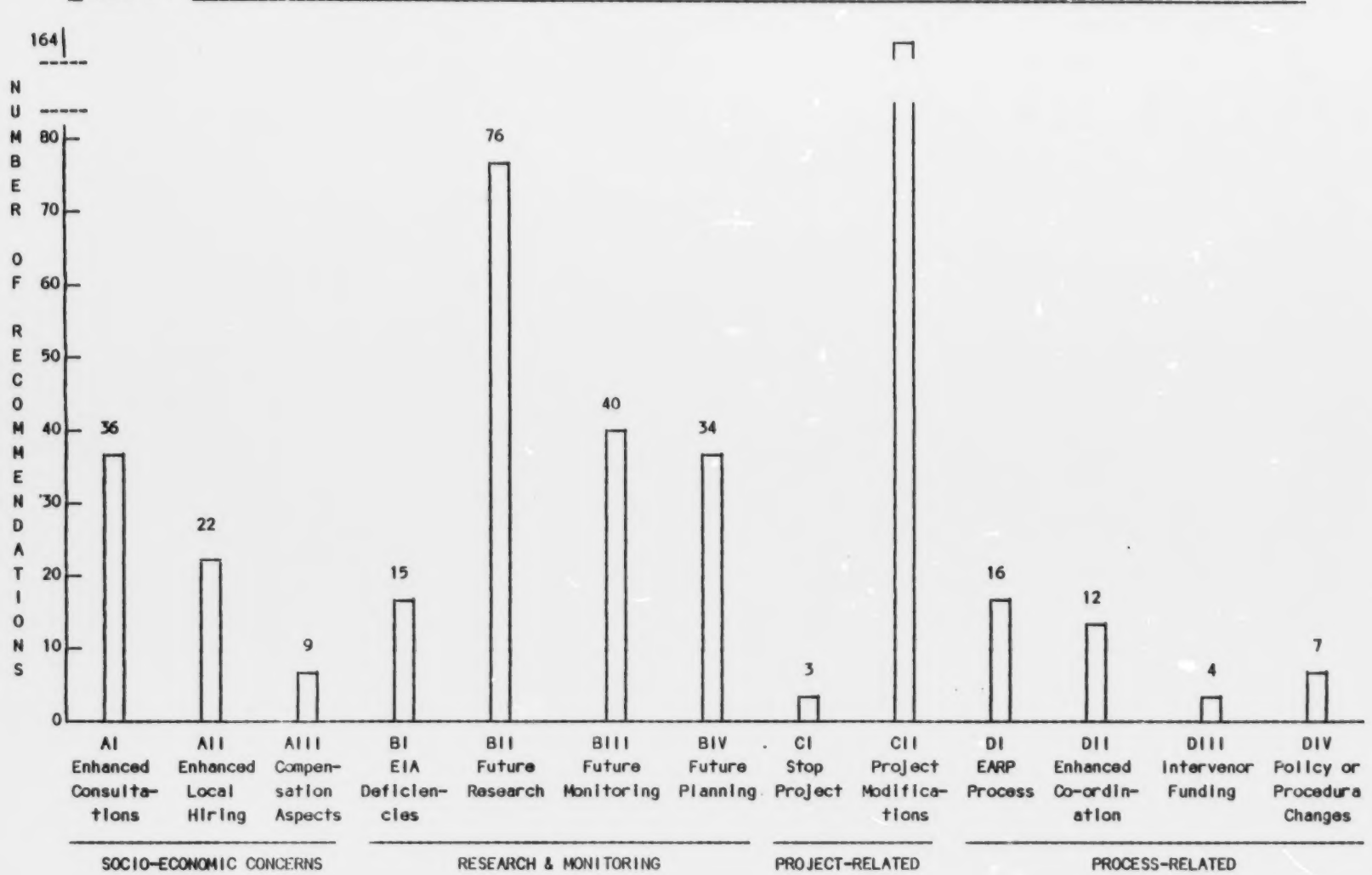
This indicates that the process has tended to be highly pro-active: that is, panels are oriented toward constructive project improvements, as opposed to obstruction of projects. This finding is all the more remarkable given the controversial nature of many of the projects chosen for review by EARP.

The orientation of the panels toward the interests of communities, or local peoples, is also apparent. Recommendations centering on "socio-economic" concerns amounted to slightly over 15% of the total number assessed. Enhanced consultations (36), enhanced local hiring (22) and aspects of compensation (9) comprised a total of 67 (15%) recommendations.

Table 2-2 Summary, By Category, of EARP Recommendations (EARP Reports 1-24)

	TOTAL NUMBER OF RECOMMEN-DATIONS
A. SOCIO-ECONOMIC-RELATED RECOMMENDATIONS	
I. Recommendations in favour of further community consultation/involvement	
(i) Enhanced/continued local consultations .	15
(ii) Information/liaison programs	21
II. Recommendations advocating enhanced local involvements/hiring	
(i) Enhanced local recruitment/hiring or contracting	15
(ii) Training	7
III. Aspects of financial compensation	9
Subtotal:	67
B. RESEARCH/MONITORING-RELATED RECOMMENDATIONS	
I. Recommendations to address EIA deficiencies or to prepare additional statements	
(i) Further data submission	6
(ii) EIA/SIA be prepared or enhanced	9
II. Recommendations for future research	76
III. Recommendations for future monitoring	40
IV. Recommendations for future planning	34
Subtotal:	165
C. PROJECT-RELATED RECOMMENDATIONS	
I. Recommendations the project be stopped, deferred or relocated	3
II. Recomendations for project-specific change or modifications	164
Subtotal:	167
D. PROCESS-RELATED RECOMMENDATIONS	
I. Recommendations regarding FEARO or EARP	16
II. Enhanced mechanisms for co-ordination	12
III. Recommendations for intervenor funding	4
IV. Recommendations for policy or procedural change	7
Subtotal:	39
TOTAL:	438

FIGURE 2-1 GRAPHICAL PRESENTATION OF NUMBERS OF RECOMMENDATIONS MADE IN EARP REPORTS (1-24) BY CATEGORY (REFERENCE TABLE 2-2)



The number of recommendations in this area indicates EARP's relatively strong orientation to the needs and sensitivities of local peoples or communities affected by the proposed developments. Indeed, the large total number of recommendations aimed at "Research and Monitoring" and "Project Modifications" could, as a general rule, be interpreted as emanating from the concerns of peoples directly affected by the proposed developments. Obviously, any recommendations which "improve" the project would directly reduce the negative impacts on affected peoples.

Next, panels have addressed themselves to EARP itself, slightly more than 3% (16) of the time. This indicates that while most panels have not felt it necessary to make significant changes to the Process they have, where necessary, felt sufficiently independent to voice their concerns for change. Although these recommendations comprise only a small percentage of the total recommendations, they demonstrate an important feature of the Process: that is, it contains elements of "self-improvement". As such, the independent panels have an avenue through which to build successive strengths, by learned experiences, into EARP. This is a feature rare to most government institutions.

Panels also developed recommendations for improved co-ordination (2.7% - 12), or policy or procedural changes (1.6% - 7). The small number of these recommendations indicates that panels have generally been content to confine themselves to the details of project approvals, or modifications, while staying clear of the wider policy aspects of each project.

Given the relative independence of each panel, this once again reinforces the conclusion that panels have felt a strong sense of responsibility. They have not tended to stray into political, or policy, considerations, but have focused on improving the projects at hand. They have only on rare occasions considered the impacts from a project proposal would be significant enough to call for a halt, or deferment, of the proposal. In each case, however, the advice for a halt in the project has been followed; in some cases to the long-term advantage of the proponents.

In sum, panels have recommended alterations to, or improvements in, projects under consideration. At the same time, they have also recommended future research, monitoring and planning. By focusing on future research and monitoring, and the concerns of people affected by the proposal, the panels have acted as a force for higher quality development.

Table 2-3 present another overview of the impacts of EARP reports in the past decade. "Major" and "minor" influences are listed by date and project. Although the Table presents highly summarized conclusions regarding EARP, and may therefore be

Table 2-3 AN OVERVIEW OF ENVIRONMENTAL ASSESSMENT PANEL REPORTS
(CS indicates projects on which detailed case - studies were done)

Project Title	Project Type and Location	Report Number(s)	Date	CONSEQUENCES OF REPORT		Project Fate
				Major Influence	Minor Influence	
1. Point Lepreau	New Brunswick Nuclear Power	1	1975	Demonstrated a determination to review federal policies on nuclear industry - even when approvals had been granted.	Point Lepreau Environmental Monitoring Program initiated.	Approved before FEARO review. Project developed.
2. Wreck Cove	Cape Breton Island Hydro-electric Power	2	1977	Initiated discussions between federal and provincial agencies to develop resource management plan for Cape Breton National Park.	DFO developed a fisheries management strategy for the affected region.	Project developed.
3. Alaska Highway Pipeline	Yukon Territory Gas Pipeline	3 10 17 21	1977 1979 1981 1982-Final	The use of EARP caused a more rigorous review of environmental concerns.	Issues raised over engineering concerns (frost heave) and routing alternative (IBEX Pass).	Project not built.
4. Eldorado Nuclear	Port Granby Refinery Port Hope/Blind River Refinery Corman Park Refinery	4 8 13	1978 1979 1980	Panel reports caused a major reconsideration of siting alternatives. Panel report caused a major re-evaluation of the proposed site.	Issues raised over radioactive emissions and site-disposal questions. Socio-economic concerns identified.	Project not built. Projects modified and proceeded. Project abandoned.
5. Shakwak Highway	B.C./Yukon Highway	5	1978	Review Committee established: Reported to DOE Minister and NWT Commissioner. Committee assisted implementation and communications.	Pioneered SIA considerations in EARP reviews.	Project partially completed.
6. Eastern Arctic Drilling	NWT Offshore	6	1979	Established terms for first eastern arctic offshore project (contingency plans, local hiring and further research).	Intervenor funding recommended, continuing environmental studies and local information/hiring programs encouraged.	Offshore wells were drilled.

Table 2-3 AN OVERVIEW OF ENVIRONMENTAL ASSESSMENT PANEL REPORTS
(CS indicates projects on which detailed case - studies were done)

Project Title	Project Type and Location	Report Number(s)	Date	CONSEQUENCES OF REPORT		Project Fate
				Major Influence	Minor Influence	
7. Lancaster Sound Drilling CS	Northwest Passage	7	1979	Panel report led to major regional studies and regional "green paper" planning exercise by DIAND.	Established concerns of local native communities and initiated contingency planning research.	Project was stopped.
8. Roberts Bank	Port Expansion British Columbia	9	1979	Panel report led to changes in project size and location.	Co-ordination committee established.	Modified project proceeded.
9. Banff Highway CS	Banff National Park, Alberta	11 18	1979 1982	Panel report led to establishment of several co-ordinating committees and incorporation of many conservation measures as significant modifications.	Detailed modifications incorporated into project.	Modified project proceeded.
10. Boundary Bay	Airport Re-activation British Columbia	12	1979	Report led to establishment of Boundary Bay Review Committee and enhanced public/intergovernment communications.	Environmental studies done and land management programs initiated.	Project proceeded.
11. Arctic Pilot Project CS	Northern LNG Project - NWT	14	1980	Report led to establishment of EACAMT for northern shipping and identification of issues of concern to Inuit.	Report identified environmental issues and needs for further research.	Project was abandoned in NEB Hearings.
12. Lower Churchill Project	Hydro-electric Project, Labrador	15	1980	Established objectives for compensation, monitoring and worker training/housing.	Recommended use of community liaison committees.	Project did not proceed.
13. Norman Wells Project CS	Oilfield and Pipeline - NWT	16	1981	Panel recommendations delayed project start-up and allowed all parties additional preparation time.	Native concerns more clearly identified for subsequent NEB Hearings.	Project nearing completion.

Table 2-3 AN OVERVIEW OF ENVIRONMENTAL ASSESSMENT PANEL REPORTS
(CS indicates projects on which detailed case - studies were done)

Project Title	Project Type and Location	Report Number(s)	Date	CONSEQUENCES OF REPORT		Project Fate
				Major Influence	Minor Influence	
14. CP Rail	Rogers Pass, Alberta	20 22-Final	1982 1983	Resolved questions of vent stack locations and use of work camps. Site co-ordinator established.	Panel report as basis for Order in Council agreement between Parks Canada and CP Rail.	Project proceeding
15. CN Rail	Twin Tracking Project	23 (Interim) 28	1983 1985	Suggested directions to design and review project: further recommendations regarding CN proposal and government interaction await final report.	(Final Report not issued at time of writing.)	Project in design phase.
16. Venture Development Project CS	Offshore Natural Gas, Sable Island, Nova Scotia	24	1983	Panel reports well received by governments: compensation agreements have been further developed.	NEB following Panel recommendations in licencing process.	Project in design phase.

subject to other interpretations based on more detailed analyses, several trends are apparent.

First, although some major projects evaluated by EARP have not proceeded (such as the Alaska Highway Gas Pipeline which stopped for economic reasons), most have gone ahead.

Second, EARP has steadily improved both the Process and increased the impact of panel recommendations which have resulted from it. The use of panel reports in subsequent regulatory hearings has been demonstrated on several occasions. EARP has only rarely been invoked in cases where project approvals have been issued in advanced (chiefly in the earliest days of the Process). Unfortunately, it was not possible here to include an analysis of occasions when EARP could have been invoked, but was not. This could be a topic for future research.

In many cases (Table 2-3), panel hearings resulted in the incorporation of significant modifications to the projects. For instance, in Lancaster Sound (FEARO 1979a), a recommendation against drilling has held to the present day. The Roberts Bank Port Expansion Panel's recommendations (FEARO 1979c) led to major changes in both the project size and location. In the Banff Highway Project (FEARO 1979c) and the Boundary Bay Airport Re-Activation (FEARO 1979f), co-ordinating committees resulted from EARP reviews. These ongoing committees provided better co-ordination for subsequent project activities.

In examples where the projects under review did not proceed due to economic (or related) circumstances it is, of course, difficult to assess the impact of EARP. In many cases, it provided a forum for initial considerations of the project, which subsequently focused reviews by regulatory bodies. More recently, EARP has served as a vehicle for interdepartmental and federal-provincial co-operation. Based on this experience, one could argue that the panel reports have tended to "streamline" rather than complicate, the Canadian assessment process.

EARP must, therefore, be viewed as a process in change, one which has been modified so as to meet changing requirements of local communities and governments. This degree of adaptability may prove to be one of the long-term strengths of the Process, although some authors have argued that it could lead to ad hoc incoherencies or unsatisfactory, case-specific attempts at compromise.

Many of the projects reviewed by EARP have either involved precedent-setting developments in frontier regions or have been major undertakings with significant environmental and economic ramifications for Canada, or both. That such projects are often controversial is not surprising. The relative impact and success of EARP must therefore be tempered with a

consideration of both the level and complexity and the sensitivity of projects which have been the subject of reviews.

In many cases, EARP has provided a neutral forum for opposing views to be expressed. As one person who was interviewed noted, there are several occasions in which "the Process itself was as good as the product". That is to say, EARP provided a forum in which views could be expressed and from which formal positions or conclusions could be reached. It also forces proponents (and opponents) to prepare their positions for public review by an impartial panel. An evaluation of the impacts of a panel's recommendations may, therefore, provide only a partial reflection of the full impacts resulting from the Process.

A third major trend noted in Table 2-3 relates to the specificity of recommendations reached by panels. In projects which were well-defined, panels were generally able to formulate recommendations which were highly specific to the issues identified. These specific recommendations in turn appear to have received more attention than less specific recommendations.

By contrast, recommendations which either called for further studies to be done (without reference to specific agencies or timing) or which centered on imprecise objectives, tended to exert less impact on decision makers. The Banff Highway Project, for example, was well-defined and allowed the panels the opportunity to focus on highly specific aspects of the development. In cases where more discussions were needed, the panel foresaw that need and addressed it through the recommended formation of co-ordinating committees. The latter tended to integrate the work of various government departments and provided a forum for continuous monitoring of the work as it progressed.

Further research could be done on the timing and formulation of projects to be evaluated by panels so as to maximize the probabilities of successful implementation of the conclusions reached. At the same time, studies could focus on the types of conclusions made by various panels, and the reasons for their success in the implementation process.

3. CASE STUDIES

A. The Selection of Reports for Detailed Analysis

Subsequent to the completion of the analysis presented in Section 2, five reports were chosen for more detailed analysis. Panel reports which were judged to be broadly representative of Environmental Assessment Panel reviews were selected.

The criteria used in the selection of case studies were of two kinds: those associated with the project itself (numbered 1 to 5 in Table 3-1) and those descriptive of the Process (numbered 6 to 9 in Table 3-1). The EARP reports chosen for review as case studies were selected because each exhibited a different profile of characteristics.

EARP reports on projects which were either regional or site-specific in scope were chosen. Large and small projects were represented in the case studies. Projects which were located primarily onshore, primarily offshore, or involving components both on and offshore were chosen. Projects of short duration and those scheduled to take place over a longer period of time were included; and both projects which were subsequently active and those which have remained on the drawing boards were included in the case studies.

Reviews which were completely under federal jurisdiction were included, as well as those in which provincial or territorial governments played a minor or major role. In some reviews only a few federal agencies were involved, in others several agencies were active. Representation in the case studies was sought from both these groups. Finally, one report which recommended that the project under review not proceed was included along with others which received recommendations to proceed with modifications. The case studies are summarized and listed below:

- Banff Highway Project: A localized, site-specific project affecting few federal agencies.

- Norman Wells Oilfield Development and Pipeline: A large, site-specific (linear) project, involving federal and territorial agencies.

- Arctic Pilot Project (Northern Component): A broad, regional review in an area of primarily federal (with some territorial) jurisdiction, involving many federal agencies to assess a regional development proposal.

TABLE 3-1

CRITERIA FOR SELECTION OF CASE STUDIES AND PROFILE OF CHOSEN EARP REPORTS

CRITERIA		EARP REPORTS CHOSEN AS CASE STUDIES				
		Lancaster Sound Drilling	Arctic Pilot Project (Northern)	Norman Wells Oilfield & Pipeline	Banff Highway	Venture Development
PROJECT-RELATED CRITERIA						
1. Scope of Project:	- Regional		X	X		X
	- Site-Specific	X			X	
2. Size of Project:	- Major Regional		X	X		X
	- Site-Specific	X			X	
3. Location of Project:	- Onshore			X	X	
	- Offshore	X				
	- Both		X			X
4. Duration of Construction:	- 1-3 Years	X		X	X	
	- More than 3 Years		X			X
5. Status of Project:	- Activity Commenced			X	X	
	- No Activity Commenced	X	X			X
PROCESS-RELATED CRITERIA						
6. Scope of Review:	- Regional	X	X	X		X
	- Site Specific				X	
7. Jurisdiction:	- All Federal				X	
	- Shared Federal/Provincial/Territorial	X	X	X		X
8. Number of Federal Agencies Involved:	- Many	X	X	X		X
	- Few				X	
9. Decision of Review:	- Proceed (with modification)		X	X[1]	X	X
	- Deferred or Stopped	X				

[1] In January 1981 the Norman Wells Panel recommended that the project "not be commenced until 1982".

- Lancaster Sound Drilling: A broad, regional review in an area of primarily federal jurisdiction, involving many federal agencies to assess a site-specific drilling proposal.

- Venture Development Project: A large, regional project, involving several federal and provincial agencies.

From each of the detailed case studies presented below, specific conclusions were reached regarding the impact of the panel's recommendations. General conclusions were subsequently formulated regarding the influence of a panel's report on the federal decision making process.

B. The Banff Highway Project

Background

The Trans-Canada Highway passes through the Banff National Park and links Calgary to an interior road system which crosses Yoho National Park and extends to the West Coast.

Parks Canada, under the authority granted by the National Parks Act, administers all the National Parks of Canada, including Banff. Banff was Canada's first national park and presently covers about 6,641 sq.km. The Park was established on November 28, 1885 through an Order in Council, which set aside a park reserve of about 26 sq.km. Ironically, the factor which initially led to the creation of the Park (a newly advancing CPR transportation corridor) ultimately led to EARP being invoked almost a century later. In the fall of 1883, CPR track-laying was advancing west from the prairies, up along the Bow River Valley and into the Rocky Mountains. The prospect of using the then new-found potential of tourist transportation to the area was not lost on the builders of the CPR. The summer of 1886 marked the beginning of the CPR's passenger service to the Rockies. Indeed, Prime Minister Sir John A. Macdonald visited the area and correctly surmised that "... it (Banff) will become a great watering place."

It was not until June 23, 1887, however, the Banff was firmly installed as Canada's first national park under the Rocky Mountains Act. (It was renamed Banff National Park in 1930. Until that time, its legal name was "Rocky Mountains Park.") As Leighton (1885) observed:

> One hundred years ago the seeds of our national park system were planted at the tiny hot springs at Banff. But in its eagerness to celebrate a centennial, Parks Canada has jumped the gun by two years; the national park at Banff was not legally established until 1887. Perhaps someone confused things with the Canadian

Pacific Railway's centennial of the 1885 completion of its line. Considering the intertwined histories of Banff and the CPR, such confusion is understandable.

Banff today has outgrown its earlier origins as a CPR resort and has become one of the major tourist centres on the continent. The conflicting pressures for use as an "unspoiled" national park and for better access by tourists and motorists culminated in a need to expand (or "twin") the highway access through the park.

The Trans-Canada Highway (TCH) was constructed under the authority of the Trans-Canada Highway Act. Public Works is the department responsible for the administration of the Act and, as an agent for the federal government, completed the TCH within the boundaries of Banff National Park in 1960. This unusual situation of having a highway of national significance traversing a national park, was bound to give rise to eventual conflicts of interest.

In the mid-1970s, traffic growth along the corridor reached unacceptable, and unsafe, levels. Three factors led to this transportation pressure:

- a rapid population growth in the Calgary area and subsequent demands for recreation;
- increased truck traffic using the low-gradient route through the Rocky Mountains; and
- increased out-of-province (tourist) use of the park.

In May 1978, Public Works Canada (DPW) proposed an expansion of the highway to four lanes of limited access into the park. FEARO established a panel, whose report was formally released in October 1979. An EIS for a continued, Phase II, extension of the highway was subsequently submitted by DPW to the panel in August 1981. In April 1982, the second report was released.

The modifications proposed by DPW to the TCH in Banff National Park will eventually result in a twinning of the highway between the Park's east gate and km 27 near the Sunshine Village ski area access road. No formal proposals have, as of the time of writing, been submitted by DPW for modifications of the highway beyond km 27. If continued, however, the twinning construction would result in a four-lane, limited access, divided highway which completely crosses Banff National Park.

The Recommendations

The recommendations of the Banff Highway Project Panel are contained in two reports: Banff Highway Project, East Gate to km 13 (FEARO 1979c) known as Phase I; and Banff Highway Project, km 13 to 27 (FEARO 1982a), or Phase II.

The earlier report contained 22 primary recommendations which dealt with issues related to construction of the project (revegetation, creek realignment, etc.), the formation of a committee to oversee design aspects and interdepartmental co-ordination, the appointment of an environmental co-ordinator and aspects related to parks management and contractor use.

The second report contained 13 major recommendations which also dealt with environmental conservation and protection strategies along the transportation corridor and with parks management and interdepartmental co-ordination among appropriate federal agencies.

The recommendations recognized the uniqueness of the project under consideration. A major transportation corridor, in which aesthetic and environmental standards were of major significance, was in need of upgrading. Co-ordination and collaboration were needed between the federal agencies with responsibilities for the project; and careful control of contractors was needed in order to ensure continuity of standards. All these factors would be scrutinized by vocal and well-informed public interest groups whose expectations for the adoption of suitable standards were high. Given the previous, polarized debate which preceeded the use of EARP, the Banff Highway consultations promised to be a singular challenge to all parties concerned.

Application of the Recommendations

There have been a number of reviews carried out on the role and conclusions reached by the Environmental Assessment Panel in the Banff High Project, the most recent of which is a study by the University of Calgary (1984). This review focused on the first report (FEARO 1979c) and concluded that, "Generally the EISs and Panel recommendations are considered adequate and mitigative measures are considered to have been successfully implemented."

Nevertheless, this and other studies raised several concerns regarding the process and its conclusions. Transportation alternatives (public transportation) and the need for other recreational facilities, such as Kananaskis, were thought to have not been adequately considered. Also, the effects of an acceleration of the project through the Special Recovery

Capital Projects (SRCP) funding (so-called "fast-tracking") could not have been foreseen, and resulted in changes to both the process of management and to those practices implemented in the construction phase.

The pivotal recommendation, in terms of long-term environmental management for the project, was the formation of committees to facilitate co-ordination. Six committees, and subcommittees, have been established which include a Senior Committee and a Policy Committee. The former acts as a co-ordinator for activities and works with the Policy Committee to ensure compliance with policy objectives. Four sub-committees (environmental, design, construction and public relations) have specific duties in their assigned areas and report to the Senior Committee.

Appointment of an environmental co-ordinator, resulting from a joint agreement between Parks Canada and DPW, has facilitated the resolution of "on-site" problems and maintains continuity of contacts for the environmental committee.

Significantly, the Phase II Panel (FEARO 1982a) recommended that:

1. (xiii) the overall responsibility for monitoring and evaluation rest with Parks Canada

   (xiv) Public Works be responsible for the redesign, costs and construction of changes to any mitigation measures found necessary as a result of monitoring or evaluation.

An important feature of the Banff Highway Environmental Assessment Panel's recommendation has been implemented. Post-assessment monitoring, rarely accomplished in the Canadian environmental milieu, is in fact being implemented as the construction proceeds. Moreover, the construction managers receive feedback directly, allowing new techniques and procedures to be assessed as the project is built.

The effective interaction, and success, of the established committee system with the monitoring and evaluation process has been demonstrated.

General Conclusions

A consistent theme emerged from the interviews conducted with personnel familiar with the Panel's recommendations: This case probably represents one of, if not the, most successful applications of EARP.

Before the review was carried out, the question of "development" approvals within the boundaries of National Parks had become a highly polarized and political issue. At the same time, pressures from user-demand and considerations of safety had led to the necessity to examine alternatives for transportation in and through the Banff National Park. A confrontation between conservationists and agencies charged with provision of park services and adequate transportation seemed inevitable.

In addition to the "external" conflicts developing between government agencies and conservationists, "internal" conflicts were developing within the government agencies (such as Parks Canada). Opposing factions were attempting to resolve conflicting opinions and find acceptable solutions.

Here EARP played a principal role in that it provided a vehicle for resolution of conflicts within, and between, those factions. The referral to FEARO acted as a catalyst for debate within government, and between government and the public. In no other case study was there such unanimity of opinion as to the success, and degree of implementation, of the recommendations formulated by the Panels dealing with the Banff Highway Project. Several factors are thought to have contributed to that success.

First, EARP provided a public airing of data of the quality and quantity needed to significantly improve the process of decision making.

Second, the Process removed discussions from the political, confrontational sphere and allowed each interest group to focus on the issues.

Third, engineering requirements were specifically modified so as to include conservationist principles and priorities regarding expansion of the corridor. This was implemented through a committee structure recommended by the Panel. The committees provided for a continuing, post-assessment process which learned from the development as it proceeded. Further, the committees were flexible enough to incorporate needed requirements into subsequent discussions.

These factors facilitated the process of obtaining public input while allowing each of the several government agencies to focus on their mandated interests. Parks Canada was clearly able to champion its interests in conservation while DPW could focus on better methods for construction. Each was, therefore, allowed the luxury of concentration on more global issues resulting from the project. In each case, the Process enhanced the ability of government agencies to focus on the issues relevant to their mandate, define their objectives and

champion those interests in a neutral, objective forum. The result was that, almost without exception, the recommendations from each Panel were adopted.

There were, nonetheless, issues which could have been dealt with better. Some of those interviewed expressed disappointment with the implementation of public education/ information programs during, and following, the construction phase. Alternatives for public transportation, or different highway routings, were thought not to have been adequately explored. Nevertheless, most expressed the view that the Process significantly facilitated decision making for the project, to the extent that a project which could have remained stalled in recriminative, confrontational debates, has successfully proceeded through two phases of development.

It may not be a coincidence that the development has proceeded, successfully, in phases. Principles learned during Phase I of the construction were not only incorporated into subsequent construction activities, but formed part of the base for the second EARP's recommendations. As such, a "self-correcting" process for adaptive change was set in motion parallel with, and in proportion to, the development.

This "phased" approach has been so successful that, although a subsequent extension of the highway project was envisioned, a third panel may not be necessary to assist in evolution of terms or conditions for the project. The existing mechanism and committee structure could simply carry on in its existing role(s).

Specific panel recommendations were successfully incorporated into the construction phase of the final projects. Fencing and underpass facilities have been established as has the perceptive recommendation to carry out studies on better designs for fencing. The recommendation regarding reclamation of disturbed areas has motivated significant advances in practice. These recommendations have, in many cases, been implemented through a (Phase I recommendation) clearly defined committee structure to monitor construction activities. (One reason for the success of the committee structures is that the federal agencies have actively supported them and have allowed them the freedom to evolve according to needs dictated by the project at hand).

For instance, recommendation 4.2(6) (borrow pits and formulation of plans for ungulate use) (FEARO 1982a) was thought to have been a significant breakthrough in establishing environmental controls for "standard" engineering practices. The success of the implementation of the recommendation has been attributed directly to the Banff Highway Panel making a valid, specific comment in this area of concern. Such advances in

practice have implications for future developments in national parks and wider applications for other less sensitive project locations.

In summary, the influence of the Environmental Assessment Panel was felt across almost every significant aspect of the project: procedures, timing and budget. In accepting the recommendations, and by acting upon them, DPW has improved the technology for corridor construction in valued areas. In effect, DPW has become a "world leader" in the technology and techniques for habitat protection and wildlife conservation in major highway construction.

It is perhaps ironic that a strong opinion discovered in the interviews centered not on the positive effect of the Process on technical issues, but on its positive effect in enabling individuals and agencies to co-operate. EARP provided a forum for personnel to concentrate on objectives and issues. The subsequent ability of those individuals to respond to the challenge posed by the project is, of course, independent of EARP, or of any process. Nevertheless, EARP provided the first step toward the rationalization of roles and responsibilities between interest groups in the Banff public consultations.

The lack of public participation post-hearings and the relatively low profile of information available to the public during, and following, the construction activities was expressed as a major drawback by some. It was noted that government agencies and conservationists alike lost an opportunity to instigate a continuing public information program regarding the innovative measures adopted for construction and maintenance of the highway.

In the normal course of construction of any project, staff turnover, particularly among contractors or project staff, will occur. Surprisingly, this turnover may indirectly demonstrate a subtle aspect of FEARO's influence. Those personnel who were early exposed to the Process and the public concerns expressed in the consultations were sensitized to the issues by first-hand experience. Later staff were not exposed to that forum and, therefore, may have different perceptions of the problems. The success of the established working committees, demonstrated so effectively in the past, may also be influenced, over time, by turnover. These comments indicate that the Panel provided an "educative" function - a process of learning that appears to have produced an atmosphere conducive to the development of a collaborative, team effort. The positive results must be, in large part, attributed to the capable abilities of personnel in those government agencies (chiefly Parks Canada and DPW) who responded to the challenges at hand.

The value of EARP in facilitating decision making was, therefore, fourfold:

- It diffused a potentially damaging confrontation within government and between public interests.
- It provided a neutral forum where each interest group (in government or outside of it) could properly focus on its priorities and mandate. Decisions were formulated as part of a truly consultative process.
- It freed capable government agencies to seize upon specific, clear recommendations and to implement them in a dynamic, interactive committee) structure (which learned from, and adapted to, the processes of construction and maintenance.
- It facilitated a "phased development" which evolved to the point whereby further reviews may not be required as the project continues.

C. The Norman Wells Oilfield Development and Pipeline

Background

The Norman Wells oilfield and pipeline project has generated considerable controversy and several review studies since the initiation of the project. This is not surprising, given the prominence of the Mackenzie Valley Pipeline Inquiry, which concluded in 1977, and the subsequent debate which ensued regarding native land claims.

The Norman Wells project represents the second major hydrocarbon production and transportation project to be built in the Northwest Territories (the Canol Pipeline was the first). In July 1981, the federal Cabinet gave approval in principle to the construction of the project. Phase one, expansion of the Norman Wells oilfield from 425 to 4,800 cubic meters of oil per day by Esso Resources Canada Ltd., was to be achieved by drilling approximately 160 production and waterflood injection wells. The wells were to be drilled on the mainland, Goose and Bear Islands in the Mackenzie River and from six artificial islands build in the river. A small diameter gathering system would pipe the crude oil to a new processing facility constructed on the east bank of the Mackenzie River.

Phase two, construction of the Norman Wells pipeline by Interprovincial Pipe Line (NW) Ltd., consists of a 324 mm (12 inch) line running south from Norman Wells to Zama in northern Alberta, a distance of 870 km. At Zama, the line links up with existing systems carrying the oil to southern refining

centers through the Rainbow Pipeline Network. Capacity of the line is estimated at 5,000 cubic meters per day.

Project mobilization began in May 1982, construction of the artificial islands and clearing for right-of-way started in January 1983 and the project was completed in 1985. Initial cost estimates for the project ran as high as $1 billion (although the recession may allow for considerable reductions in costs) to employ as many as 1,800 persons during the peak phase of construction (Esso Resources Ltd. 1980).

Hence, completion of a portion (roughly half the distance) of the Mackenzie Valley pipeline system will be effected two years before the expiration of the ten-year moratorium proposed by Mr. Justice Tom Berger. As such, it represents another important increment in the industrial development of the Mackenzie Valley, a process which began almost 200 years ago.

In 1789, Alexander Mackenzie first documented the presence of oil in the Mackenzie Basin. By 1919, the first oilwell was drilled at Norman Wells to a shallow, total depth of 783 feet. Up to 100 barrels per day (bpd) were recovered from the well and several other wells were completed over the next several years. A primitive refinery was constructed to meet local requirements. It closed in 1925 but re-opened in 1932 to service the Eldorado radium mine on Great Bear Lake. In 1939, the refinery was upgraded so as to produce 840 bpd.

The pace of development quickened significantly during World War II, as the Norman Wells oilfield suddenly represented a strategic supply of oil for troops defending Alaska and the Yukon. The "Canadian Oil" or Canol Project began in 1942 and saw costs escalate from initial estimates of $25 million to over $130 million (Bryant 1982). Completion of the line was accomplished in February 1944 and it was closed in March 1945. At Norman Wells, a wartime peak production of 5,480 bpd was reached with a total of 1,675,132 barrels pumped through the line (a telling comment is that only 659,130 barrels arrived at the refinery at Whitehorse with approximately 99,000 barrels remaining in the line itself at shut down - this residual oil later was given over to Imperial Oil, Ltd. (Bryant 1982; Page 1981).

While production of oil quickly declined after the war, operations continued until, by 1979, further delineation revealed the true, previously undefined, dimensions of the reservoir at Norman Wells - 650 million barrels of oil.

The Norman Wells Project was subsequently reviewed by three public hearing forums: EARP, NEB and the Northwest Territories Water Board. The three processes, two regulatory

(NEB and the NWT Water Board) and one advisory (EARP), each examined technical, environmental or socio-economic aspects of the proposed project.

DIAND formally referred the project to the FEARO in February 1980. Esso Resources Canada Ltd. and Interprovincial Pipelines Ltd. (IPL) filed a joint environmental impact statement with the Norman Wells Environmental Assessment Panel in April 1980. The Panel held community and more general consultations from August 11 to September 1, 1980 in the Mackenzie Valley, in Yellowknife and in northern Alberta. The final report was released in January 1981.

Concurrent with its March 1980 application to DIAND for a right-of-way, IPL filed for a Certificate of Public Convenience and Necessity with NEB. NEB subsequently held hearings in 1980 in Edmonton, Yellowknife and Ottawa and issued terms and conditions required for Certification in March 1981.

In 1981, the NWT Water Board held hearings, in association with water licence applications from both ESSO and IPL, in communities throughout the Mackenzie Valley.

In each of these processes, a wide range of potential environmental and socio-economic concerns were identified by native peoples, government agencies and public interest groups. As expected, native peoples pressed the government for settlement of land claims outstanding in the region and for adequate provision of monitoring and measures for environmental protection.

The NEB Certificate of Public Convenience and Necessity (OC-35) was approved by the Governor-in-Council on October 29, 1981 and IPL was given conditional approval to proceed in September 1982. The NWT Water Board issued licences to Esso and IPL on July 1, 1982 and January 1, 1983, respectively.

The Recommendations

The Norman Wells Environmental Assessment Panel's 61 recommendations, plus a "closing comment" regarding unresolved land claims, are contained in a report issued under the Chairmanship of Dr. Pat Duffy (FEARO 1981a). Recommendations were grouped into four major categories: "Environment and Engineering", "Economy and Society", "Social Concerns", and "Northwestern Alberta".

The first category contained recommendations as to alternatives, geotechnical concerns, water crossings, island construction, fisheries and wildlife, forests, oilspills, toxic substances, water use, archaeology and environmental

impact management. The section on "Economy and Society" dealt with the regional economy, employment, government services, transportation and communications.

In the section "Social Concerns", the "dual society" was discussed, along with northerners living on the land, social benefits and costs, goals and planning, government-proponent liaison and the role of community advice.

The Panel drew attention to concerns of the Dene Tha Band of northern Alberta and made a "closing comment" which noted the need for an acceptable settlement in land claims in the Mackenzie region.

The recommendation which received most widespread attention was recommendation 61, calling for a minimum delay of one year before initiation of the project (FEARO 1981a):

> Finally, it is recommended that because of outstanding environmental and socio-economic questions and the need for government preparation, the Norman Wells Oilfield Expansion and Pipeline Project should not be commenced until 1982 at the earliest. The Panel believes that a start-up in 1982 could provide time for adequate safeguards and programs to be planned and installed.

Application of the Recommendations

The Esso-IPL joint EIS for the Norman Wells Oilfield and Pipeline project was submitted to DIAND before FEARO was able to assemble a review panel and, hence, no guidelines from FEARO for completion of the EIS were issued to the proponents. Instead, the proponents followed the standard "Environmental Impact Assessment Guidelines for Proposed Oil and Gas Exploration and Production".

Controversy therefore ensued from an early phase of the assessment. As Bryant (1982) noted:

> In any case, specific guidelines from the Norman Wells EIS were not prepared, and FEARO incurred some criticism as a result, both because it was thought that pertinent information was absent from the EIS and because intervenors did not have guidelines on which to base their reviews. Some intervenors even suggested that the entire assessment process had been perjured in the interests of expediency.

DOE and DFO early decided to present a joint intervention to the Panel hearings. The recommendations eventually reached by the Panel should be assessed against some of those earlier comments. DOE/DFO took the view that impacts could be reduced

by planning, sound design and good construction practice. They identified five concerns:

- No progress had been made in regard to the recommendations made in Justice Berger's report, particularly in relation to northern land use planning.
- The proponents had not adequately addressed contingency planning.
- There were questions surrounding artificial island construction and design which remained unanswered.
- The pipeline design submitted did not adequately deal with problems of unstable permafrost.
- There were further justifications required regarding pipeline route choices.

Bryant (1982) details other concerns raised by DOE/DFO during the hearings and provides an assessment of the effectiveness of those agencies in making their presentations to the Panel. He concluded:

> On the whole, the hearings have been a qualified success, at least from DOE's perspective ... It would be inaccurate to report, however, the DOE left the hearings completely satisfied, for some issued had not been resolved ...

The most significant (certainly for the proponents, at least) recommendation from the Panel was that the project be delayed for a year in order to allow government time to make administrative preparations and have the proponents conduct subsequent research.

The suggestion was, indeed, upheld by the ministers of Environment and DIAND. Cabinet approval reflected the advice and delayed the start-up appropriately. The delay also allowed native people and the GNWT to further prepare for the project, including hoped-for progress on land claims in the region.

As to the remaining 60 recommendations formulated by the Panel, it is difficult to properly assess their impact on the project. First, recommendations and licensing criteria were reached by EARP, NEB and the NWT Water Board. The latter two may be interpreted as having had an important effect since they develop legal certifications, while a panel's recommendations are strictly advisory. However, Bryant (1982) noted that:

> ... it is a matter of record that at the subsequent hearings before the National Energy Board, no major

> environmental issues were raised which had not first been discussed before the FEARO Panel.

This indicates a duplication of effort by NEB but, once again, blurs the ability of researchers to identify the clear impacts resulting from the Panel's recommendations, since the evidence reviewed by the Panel and NEB was virtually identical.

Second, few detailed follow-up studies on the impact of recommendations, or their implementation, have been done. An exception to this is the study done by Environment Canada (Bryant 1982):

> ... the Panel incorporated many of the department's (DOE) concerns into their "requests for additional information" and into their final recommendations. To say, however, that all of these concerns have been adequately addressed would be misleading. Certainly some have been, for example the question of the necessity of island construction or the issue of leak detection, yet many others have been addressed only superficially or not at all. This is due in large part to the fact that FEARO has no legal authority to subpoena information or to enforce its recommendation, in fact, the entire EARP process is dependent upon the goodwill and social conscience of the proponents in providing data. In this respect, it can safely be stated that ESSO has shown a greater degree of goodwill towards EARP than has IPL. Of the nine recommendations dealing with the field expansion, ESSO has fully complied with four ... and they have attempted to comply with at least two more ... In contrast, IPL has not yet addressed any of the four DOE-sponsored recommendations directed towards them ... Indeed, during the preparation of this report, attempts to obtain information from IPL on the status of FEARO's FEARO's recommendations were constantly rebuffed, the general feeling within the company (apparently) being that the EARP process was finished the instant FEARO's final report was completed.

The author continued:

> Regarding FEARO itself, although one could perhaps criticize some of its recommendations for being somewhat vague and open to misinterpretation, ... and one could complain about the fact that no EIS guidelines were produced, it is felt (by this writer at least) that they performed nothing short of an excellent job in organizing and assimilating a diverse and extensive range of facts and opinions within a very short period of time ...

As an aside, it is interesting to note that while IPL had not addressed the issue of baseline wildlife monitoring at the

time of writing of the Bryant (1982) report, this became a significant issue at the Yellowknife hearings of the subsequent Beaufort Sea Environmental Assessment Panel. As a result of those later public review pressures, a settlement of the issue was reached between the GNWT and IPL.

In the Beaufort Sea hearings, several intervenors used the "Norman Wells Experience" as a study for the Panel. The Dene Nation (1983), for instance, extensively reviewed and contrasted their experience with FEARO and NEB. That brief concluded:

> EARP is no less a creature of federal government policies than the NEB and therefore, for the Norman Wells EARP panel, approval of the construction of the pipeline was as much of a foregone conclusion as it was for the NEB. But unlike the Board, EARP has no power to enforce its recommendations, and therefore it can be allowed to be more independent and far-ranging in its deliberations. Through EARP, the federal government can try to persuade Canadians that it really does care about them and about the environment in which they live. But one has to wonder why, if the government cares so much, it doesn't bestow on EARP the same sort of power and influence the NEB enjoys.
>
> In spite of its shortcomings, the EARP report has played an indispensible role in the process of assessing the environmental, socio-economic and technical aspects of the Norman Wells pipeline. Without EARP, the NEB would have been the only major forum in which to assess the project, and as I have shown, a number of major issues would not have been discussed, and the voice of the people would not have been heard.

Page (1981) was somewhat less sanguine, in his extensive historical review, regarding the role of both NEB and EARP in the Norman Wells hearings. On the question of the influence of approvals by these bodies on land claims, he noted:

> John Olthuis, the lawyer for the Committee for Justice and Liberty, one of the public interest groups, described the (NEB) conclusion as "unbelievable and unjust because the native leaders repeatedly explained to the Board that protection from the very impacts cited by the Board was a critical objective of their claims negotiation". The Dene stressed that their views were totally ignored by the Board and by the EARP Panel in their respective reports.

On the question of socio-economic impacts generated by the pipeline construction, Page (1981) conceded, however:

> The EARP report, while limited in its terms of reference, did recognize the substance of the local arguments and suggested the establishment of a special trust fund from federal revenues to meet partially the chorus of criticism that Ottawa was siphoning off the wealth of the North to meet southern needs.

He summed up his review, however, being equally harsh on both the NEB and EARP conclusions over Norman Wells:

> The Norman Wells decision is an instance where one can be grateful for the interference of the Minister in overturning the recommendations of NEB and EARP reports which defied the wishes of both the native groups and the territorial assembly. But it is hardly surprising that many northerners are apprehensive about their future as energy intensify the pressures from the south.

More than 30 recommendations were made by the Panel on socio-economic-related subject areas. This attention (fully half the total number of recommendations made) unquestionably focused decision makers' attention on those aspects. Although causality can, once again, only be inferred, the Cabinet approval to proceed made provision for up to $21.4 million (1981-1986) to respond to many of the points raised by EARP. Funds were allocated to assist project-related responses for the needs of northern communities; mitigation of social impacts and enhancement of local economic opportunities; promotion of project participation; monitoring; and maintenance of government services.

From this funding, the Dene Nation and Metis Association were allocated $6.5 million for local social development and planning projects. They also received $1.5 million to enter into a joint business venture with Esso.

The magnitude of funding made available by the federal government indicates that many of the recommendations must have been taken seriously indeed, especially in relation to local training, development and business development needs identified by the Panel.

A detailed "mid-project evaluation" was prepared for DIAND to assess issues related to the Norman Wells Co-ordination Office (Anon. 1984). The review highlights the role of yet another significant development in association with the project - the establishment of a Project Co-ordination Office (NWPCO).

This office was established with DIAND, in response to Cabinet approval, and is responsible "for co-ordination of government regulatory activities and of incremental government programming related to the project" (Anon. 1984). Cabinet did not,

however, assign authority to the NWPCO to direct or control the activities of any government body. Hence, Cabinet adopted a "middle ground" for regulatory control of the project - between the "all-powerful" Northern Pipeline Agency (NPA) and the existing regulatory agencies. Further, the NWPCO oversees four socio-economic and environmental agreements signed between DIAND and the proponents in 1981.

Once again, a correlation between the recommendations reached by EARP and the subsequent establishment of the NWPCO can only be inferred; however, the Panel extensively detailed the need for proper co-ordination and delivery of social programs and economic development. The magnitude of the response taken by Cabinet must surely have reflected the concerns noted by the Panel. In this regard, the year delay recommended by the Panel in order to allow for "government preparation" to address "outstanding environmental and socio-economic questions" certainly drew attention to the significance of these issues - and yet allowed the flexibility and time for government (federal and territorial) agencies to address them. Indeed, the project delay and subsequent organizational response by government is probably one of the most potent examples of EARP affecting the governmental and industrial decision making process, at least in the Northwest Territories.

Unfortunately, the NWPCO did not become fully operational until early in 1983, when the full-time Project Co-ordinator was appointed. By that time, most of the regulatory approvals had been issued and construction operations were underway.

The review by Anon. (1984) addressed the success of the NWPCO and made extensive recommendations regarding its operations. That review also noted the widely expressed concern regarding the length of time required for authorization of requests for portions of the $21.4 million in impact management funds allocated by the federal government:

> This was a source of considerable annoyance among the Dene and Metis and of significant consternation among DIAND staff in Ottawa ...

This delay was attributed, not to the regulatory structures, but to Treasury Board procedures. This may be an "indirect" example of FEARO's impact on other federal agencies - although an unhappy one due to the delays.

General Conclusions

Unlike the Banff Highway case study, there was little unanimity among the interviews conducted with personnel familiar with the Norman Wells review.

This may be a function of the various aspirations and interests of those interviewed and the number of formal hearings and assessments carried out in the region. Justice Tom Berger was a hard act to follow, and many feel that the processes invoked after his Inquiry merely rationalized an approvals process which should not have been invoked until the recommended ten year moratorium had elapsed and all land claims were settled.

Some pointed to a perceived rivalry between NEB, FEARO and DIAND in the area, each contributing to "undermining" the principles enunciated by the Berger Inquiry. NEB was perceived as a "lawyers game" in which the public, chiefly native groups, had little chance of adequate input. Some suggested that all the processes should be abolished in the North, and the GNWT be given the responsibility to establish a NWT Energy Resources Conservation Board (ERCB), like that found in Alberta.

Others pointed to the inadequacies in monitoring processes established to date. Donihee (1983), in testimony to the Beaufort Sea hearings, stated:

> Priorities of governments seem to rest on the front end of projects. Once hearings are over, the next project claims our attention. In this case, it is the Beaufort which is now claiming the most attention and where once again all agencies will clamour for a "comprehensive and co-ordinated monitoring" program. Action to date in organizing monitoring studies in the Mackenzie Valley for the Norman Wells project does not make me confident that either industry or government has serious interest in determining what the environmental problems of building a pipeline in the Mackenzie Valley really are, as opposed to what they were predicted to be.
>
> To help offset the problem, we need what is termed "adaptive environmental assessment". That is, early environmental work co-operatively planned by the companies and concerned government agencies. Land use planning should help clear the air and facilitate the communication necessary to approach development planning more openly.

This theme was further elaborated in the interviews. It was noted in particular that a major deficiency in EARP is the lack of a careful follow-up to its reports. Indeed, some suggested that FEARO should be directed to issue both reports and subsequent follow-up studies so as to monitor the degree of implementation of its recommendations. Another deficiency noted was that the Norman Wells Panel did not identify clearly who should undertake a recommendation and with what financial resources. It was felt that the more certain the

recommendation, the higher the likelihood of implementation. In short, "adaptive environmental assessment" is partly a function of assignment of responsibilities. Here, the Panel's impact on northern environmental agencies could probably have been increased.

Nonetheless, the Panel again provided a forum for issues of significance to be voiced. Issues identified were discussed in open sessions and in a "neutral" setting. Earlier comparisons noted for similar sessions under the NEB have pointed out the value of public accessibility of Environmental Assessment Panels. Many interviewed felt that NEB seriously ignored local northern interests and that many other federal agencies decided in advance of the hearings that the project could proceed satisfactorily. As such, EARP was felt to have been a good "warm-up" for the subsequent NEB hearings where sworn evidence prevailed and many technical experts appeared. Indeed, some noted that territorial agencies used EARP to "force" federal agencies to more seriously address the project. Here, a major concern was voiced - that NEB was more adequately equipped to deal with technical project requirements than EARP and, therefore, some recommended that EARP concentrate on process-oriented questions surrounding projects. In this case, since EARP did not focus on specific, process-oriented questions, its effect was blunted. Indeed, it was expressed that most of the Norman Wells Panel recommendations were "motherhood" statements which could not be specifically addressed by appropriate agencies who, in turn, could not be assessed for their performance. As one person noted, the panel recommendations were "brave words, but nobody was held to account. They were brave words with no commitment to follow-up".

Here, another interesting comparison emerged - the relative responsiveness of industry and government to panel recommendations. Government agencies were seen as both slow-moving and terribly inefficient at implementing recommendations. Inherent inefficiencies and jurisdictional conflicts seriously eroded the ability of government agencies to respond to the process. Many benefits were thus thought to have needlessly escaped the North. In many cases, those benefits which were captured were often due to the goodwill of some industry proponents to rapidly incorporate panel recommendations into the project development.

The industrial perception of EARP was that it significantly influenced the direction and rate of the development. It was noted that the eventual terms set out in the Cabinet approval for the project fully incorporated the recommendations of the Panel.

Furthermore, the delay recommended by the Panel allowed both industry and government time to better prepare for the eventual development. It was expressed that the relative slowness of DIAND in establishing the federal co-ordinator's office seriously undermined the administrative support systems and, therefore, the delivery of benefits to northerners. This lack of focus allowed jurisdictional rivalries to develop - yet another serious problem for the development. The unwillingness of DIAND to relinquish responsibilities for specific areas (such as aspects of socio-economic development) to the GNWT was also seen as another negative aspect. Treasury Board further complicated the process by its slow authorizations for approved funding.

Others noted that the Panel's report facilitated the work of the regulatory agencies (NWT Water Board and the NEB) in that it allowed them to quickly identify the issues of significance and then to focus on them. As such, the report was thought to have "become incorporated within the regulatory process". Moreover, subsequent interventions by native peoples to the Water Board were thought to have been better defined by participation in the Process, in that important issues were more clearly identified. These were subsequently studied and interventions were tailored to address those concerns before the regulatory bodies.

Further, the Panel forced the proponents to enter into a productive dialogue with several government agencies - which helped to resolve technical and procedural problems. This, in turn, was seen to have enhanced integration of industry-government research and monitoring programs.

As an aside, the challenge by the Dene to the NWT Water Board over issuance of water authorizations (which resulted in the courts overturning a longstanding practice of DIAND under the Northern Inland Waters Act) probably stemmed directly from the initial identification of the issue in the Panel hearings.

Many comments focused not on the industry response to the Panel's report, but to that of government. Several voiced the comment that an early response to recommendations by those government departments directly affected would be useful. In many cases, government agencies made no comment whatsoever on the recommendations (positive or negative) and industry was left in a difficult position - not knowing which policy or recommendation would be followed. It is, perhaps, ironic that several of those interviewed felt that EARP more significantly influenced the private sector than the public sector agencies which spearhead referrals to FEARO.

Another concern centered on the effectiveness of panels appointed in the North. In order to increase that

effectiveness, it was suggested that FEARO might consider allowing the GNWT to appoint panel members. It was noted by several that the ability of the Minister of Indian Affairs and Northern Development (at the time of the hearings) to reach a "middle-ground" consensus greatly contributed to the success of the project.

Several expressed the view that the efficient handling of the Norman Wells review significantly contributed to the decision-making process in industry and government. The review allowed industry to do a better job and the delay in construction recommended by the Norman Wells Panel allowed all sides to do a better job.

In summary, EARP had several major influences on decision making associated with the proposal:

- While there were many different agendas for the various groups affected (for government these were issues associated with jurisdictional authority, while many native peoples were concerned with land claims and resource protection) the Process provided an open forum for discussion of those issues. The accessibility of EARP to all parties contributed to the ability of intervenors to focus on the issues at hand and to formulate strategies for future actions.

- The Panel recommendations, although often somewhat vague ("motherhood" was a term often used in the interviews) nonetheless allowed the NWT Water Board and NEB to focus more clearly on the issues. Intervenors to those regulatory bodies could also more clearly focus on issues of relevance based on the preceeding discussions at the EARP hearings.

- It is interesting to compare the relative rates of response of industry and government agencies to the panel report: the former is judged to have been generally much more responsive. In cases where the proponents did not adequately respond to EARP Panel recommendations, the fortunate coincidence of subsequent EARP (Beaufort Sea) hearings helped to bring those unaddressed issues to a conclusion.

- Many expressed a need for FEARO to evolve methods for the assessment of responses to Panel reports. The effectiveness of the process would probably be significantly enhanced by the application of post-hearing evaluations.

- The delayed start-up recommended by the Norman Wells Panel had several effects:

- The hearings allowed for a public airing of land claims issues by native peoples and the subsequent delay allowed time for a partial political resolution of many issues.

- Planning for the project was significantly enhanced for both industry and government. It was noted that even with the delay, many government programs were slow to be realized.

. In cases where the proponents were not responding to agreed programs (such as monitoring requirements) the subsequent Beaufort Sea Panel gave appropriate government agencies an opportunity to highlight those deficiencies in case studies and reach a better settlement of the issues. Without those subsequent public consultations, it is doubtful that satisfactory resolution of some issues identified by the Panel would have occurred.

D. Arctic Pilot Project

Background

The Arctic Pilot Project (APP) was one of the more ambitious hydrocarbon production and transportation proposals to be evolved during the mid-1970s. With the collapse of the Mackenzie Valley pipeline after the Berger Inquiry, those searching for alternative routes and transportation modes for Arctic hydrocarbons examined several options. Polar Gas, for instance, examined pipeline routes east of the Mackenzie Valley. Offshore developers in the Beaufort Sea region actively pursued studies on oil tankers which would move oil east, through the Northwest Passage, to southern markets. Due to the sudden rise in oil prices and the demonstrated shortages which arose in Europe and North America, many development projects which would have been considered outlandish only a few years before, were seriously evaluated.

The voyages of the Manhattan in 1969 and 1970 galvanized Canadian opinion regarding territorial, marine jurisdiction and started a series of intense public examinations regarding Canadian northern development policies. In less than a decade, federal legislation was enacted to establish Canada's sovereignty in the Arctic islands and to enhance environmental protection of northern freshwater and marine resources. Parallel with these southern initiatives, northern political development, particularly among northern native peoples, proceeded apace. Land claims were developed, Inuit political groups formed the Inuit Circumpolar Conference and, in Greenland, a strong home rule movement continued to grow. Other international developments included careful scrutiny of the Canadian jurisdictional claim to the Arctic archepeligo

and studies of the Right of Innocent Passage through Baffin Bay, Davis Strait and the Northwest Passage. Into this turbulent political and jurisdictional milieu sailed the Arctic Pilot Project.

The project was unique in many respects. It was, indeed, a pilot project for the potential use of year-round shipping through the Canadian Arctic and would constitute the first landings in southern Canada of northern hydrocarbons. Significant new technology would be required to develop ships capable of carrying super-chilled natural gas year-round through heavy ice. Furthermore, the first pipeline system in the high Arctic would need to be constructed along the length of Melville Island from the gas fields of Drake Point to an LNG terminal at Bridport Inlet.

The APP proposed to produce an liquefy 6.4 million cubic meters of natural gas per day and ship the gas in two ice-breaking tankers east from Melville Island through Parry Channel and south through Baffin Bay to facilities in eastern Canada. Aside from the technological issues raised by the project, the APP cut across numerous Canadian jurisdictional lines and brought several federal evaluative mechanisms into play. In addition, the project polarized northern political interests and brought international diplomatic circles into the discussion.

In early 1979, the APP issued an Environmental Statement and this, along with a Socio-Economic Statement and supplementary data requested by the Arctic Pilot Project Panel, served as the focus for the Panel's review. In April 1980, public meetings were held by FEARO in communities across the Arctic, chiefly those along the proposed shipping route. The report of the Arctic Pilot Project Environmental Assessment Panel was published in October 1980, under the Chairmanship of John Klenavic (FEARO 1980b).

The Recommendations

The Panel's report contained seven major conclusions. The Panel reached an "overall conclusion" which found the project "... to be environmentally acceptable subject to certain conditions" and noted that ship routing and monitoring programs could be used to diminish the environmental impacts from the project.

Importantly, the Panel concluded that these aspects could "... only be achieved through the formation of a control authority to monitor ship movements, and enforce good seamanship and appropriate environmental regulations." The Panel further pointed out the need for expanded research on marine mammals, with advice and input from Inuit and research

scientists: "... without a monitoring and control mechanism for the selection of the shipping routes, the Panel is unable to recommend that the Project is environmentally acceptable."

The Panel also highlighted the Inuit priorities of settlement of land claims and a "participatory role in northern development projects." These, and potential disruptive effects of the project on northern marine mammal populations, led the Panel to set out a series of recommendations, an important one being: "The Proponent should clarify its intent and conditions for Inuit involvement in the project so these may be considered by government in consultation with Inuit before any regulatory approvals are granted for the project" (FEARO 1980b: 105).

Application of the Recommendations

By far, the recommendation which appears to have had the most long-term significance (given the eventual collapse of the Project) was for the "formulation and effective operation of a control authority by the Minister of Transport ... (to) ... monitor ship movements and enforce good seamanship and appropriate environmental regulations ..." (FEARO 1980b: 4). This recommendation set in process a series of events which eventually led to the establishment of the EACAMT (Environmental Advisory Committee on Arctic Marine Transportation). Reporting to Coast Guard (Northern) and Co-chaired by DFO and DOE, the EACAMT fulfills two important roles. First, input on northern marine shipping issues is channeled through it from many different federal, territorial, industrial and public-interest groups. Second, EACAMT's continuing presence establishes a continuity of interest in marine issues. This allows for ongoing government reviews of, and interests in, development issues.

The APP Panel's report was also available in sufficient time to permit its use in the subsequent NEB hearings (discussed below).

Research programs recommended by the Panel, especially those concerned with marine mammals, were subsequently followed up on, although the fully implementation of the project research and monitoring program was obviously blunted by the project discontinuation. Programs for long-term research done by the federal government appear not to have been aggressively implemented. Indeed, recent events surrounding the Canadian Wildlife Service indicate that the long-term research capabilities of the Canadian government have been steadily eroded, not augmented, since the time of the report.

General Conclusions

Much has been written about the Arctic Pilot Project, particularly those aspects which relate to its difficult and long passage through the Canadian regulatory process. The implication in some of these papers (Bruchet and Robertson 1983) has been that the APP was somewhat unduly subjected to regulatory review:

> ... the Project was required to undergo a public environmental and socio-economic review under the FEARO Process, although neither of the two heavy metal mines in the same area had done so, nor had the approximately one billion dollars of exploration activity in the Arctic islands. The Beaufort Sea exploration activities did not undergo a public review, however, the development proposals for that region currently are in the early stages of such a review.

The proponents were quick to point out the regulatory difficulties experienced after the invocation of EARP:

> Notwithstanding such a wide review (DIAND) ... also took the initiative for a regulatory review and referred the Project to the National Energy Board ... Traditionally, the NEB has dealt with issues such as interprovincial pipeline licences, export to the United States, rate base matters, etc., and has not been involved in a major way with any High Arctic proposals requiring marine transportation. However, in the APP's case, in addition to dealing with the issue of gas export from Canada, the Board was requested to hold a general inquiry into the Project.

Within six months of the initiation of those hearings, NEB (in August 1982) adjourned until such time as the APP could better define the final markets for its proposal. The proponents did not file to re-open those hearings. Shortly after that conclusion, the APP was disbanded.

Concurrent with the EARP/NEB processes, DIAND initiated that "Lancaster Sound Green Paper" to better identify options for the Lancaster Sound region. A draft Green Paper was completed late in 1980 and a final version was released in July of 1982. The duplication and delays of the hearings process were further noted as a major impediment to the project. Bruchet and Robertson (1983) wrote:

> At this time (1982), the 1980 (EARP) report was being considered by the (NEB) as another input to their process, and all the issues aired at the EARP hearings were being raised and discussed at length in the (NEB) hearing. The advice to the proponents of the APP was that the (DIAND) would receive the reports of the (NEB) and the (EARP) and

> would recommend to Cabinet a position on approval or disapproval of the project. To date, the APP has spent approximately five years in the regulatory process.

Those authors concluded that the "convoluted and overlapping structure of the Canadian regulatory process" was further exacerbated by a "perceived need of regulatory bodies to review projects within a static situation". They suggested that:

> Lengthy reviews ... must be willing to accept that designs cannot be final, and that there may be changes both during the review period and before construction commences. It is unrealistic to expect companies to move large projects to a final design stage before substantial assurances have been given that the project will proceed.

Gamble (1981), however, offered a radically different viewpoint, one that embraced a more comprehensive view of regulatory interactions between government departments and proponents:

> We are often led to believe that the lack of "streamlining of approvals" is the fault of government-dictated decision-making processes. While there is certainly some evidence of this, there is equally compelling evidence to suggest that industry itself is providing the resistance and slowing things down.

Gamble went on to detail evidence of the incompleteness of the APP application to NEB in 1979. The second filing to NEB was also noted to have been incomplete, containing "no economic analysis, financing arrangements, markets for the gas, or integrated route analysis". Here, instead of constituting an impediment to northern developments, EARP was thought, by contrast, to have "moved with uncomfortable speed":

> ... the APP did not provide the EIS until January 1979. The EIS was so deficient that the panel required a major rewrite. That was received between November 1979 and March 1980. Hearings were held in April and a report, giving qualified approval, was issued in October 1980.

One could scarcely find more contrasting views of the ability of EARP to expeditiously review and report upon major project proposals.

There is yet another way to view the application of Canadian review processes to the APP. The Environmental Assessment Panel's report formed a major input to the NEB hearings and served to help NEB to develop a series of concerns regarding the proposal, chief among those being the environmental

impacts on marine mammals, the economic feasibility of the project and international (Greenland) ramifications.

In 1982, in direct response to the Panel's report, the Canadian government established a Ministry of Transport Control Authority to regulate all shipping in the Canadian Arctic. Here, EARP acted as a focus for the Canadian Arctic regulatory maze and ended by facilitating the development of clearer structures for future project reviews. This result addresses the most fundamental concern raised by Bruchet and Robertson (1983):

> The point has been made that when a project is the first to go through the regulatory process it will understandably suffer from the learning curve that any new procedure requires. However, it can be shown that because the process is so frequently adjusted, every new project proposed has had to enter new regulatory waters.

Certainly, clarification of the regulatory structures dealing with Arctic marine transportation through the establishment of the EACAMT provides a base for better evaluations. EARP also helped to establish the earnestness of the Inuit concerns over environmental protection and land claims negotiations then underway, a viewpoint which was made with considerable force at the NEB hearings.

A point of significant controversy arose from the interviews. Some, chiefly government representatives, noted that the EARP review of the APP provided a vital first step in identifying the major issues. This identification, similar to Norman Wells, allowed the subsequent NEB hearings to quickly focus upon important questions for resolution. Others, however, voiced serious reservations about this aspect. They pointed out the significant regulatory overlaps between NEB and FEARO as applied to the APP. Each agency made a detailed examination of the environmental issues surrounding the proposal. Indeed, disappointment was expressed over the inability by the proponents to file the Panel report as sworn evidence in the NEB hearings. The view was taken that, in effect, many millions of dollars of environmental research and evidence was, therefore, effectively unavailable to the proponents in making their case to NEB which significantly diminished the impact of EARP in the regulatory process. As such, some felt that the Process cost the proponents heavily in both time and funds, only to allow the subsequent regulatory hearings, which were a highly adversarial process, access to a detailed analysis of perceived weaknesses in the proposal. It was contended that proponents tend to be at the mercy of an undefined, and expanding, process.

As an aside, some felt that there were distinct advantages and disadvantages between two processes. While EARP allows for easier public access to a non-adversarial forum than is the case for NEB, some thought it was harder for proponents to refute charges raised in EARP hearings. In the NEB hearings, by contrast, testimony is sworn and each witness may be rigorously cross-examined by proponent lawyers. Hence NEB hearings were seen to promote "accountability" to a greater degree than EARP hearings. This view, however, is somewhat curious given the open structure of the EARP consultation process and the financial and technical resources which are generally available to most proponents. It also ignores the good judgment of members selected for the panels and their ability to determine the relevance of submissions. Indeed, the evidence seems to indicate that the APP proponents encountered great difficulty in refuting hostile interventions at the formal NEB hearings than at those that occurred under EARP.

In summary, the impact of FEARO was threefold:

First, the Process facilitated the co-ordination of many government agencies and catalyzed the formation of a powerful, advisory committee to continuously oversee Arctic marine transportation development issues. The Panel's report was seen to have facilitated the development of an integrated route analysis which was applied throughout subsequent hearings and which ultimately contributed to the formation of the EACAMT. An environmental advisory committee co-chaired by DOE/DFO further contributed to integration of biological concerns into the route selection and the obtaining of views from the Inuit. This result has allowed government to not only better co-ordinate its role, but has served to streamline communication for future proposals. The Bent Horn development, currently proposed by Panarctic Oils, Ltd., should be an interesting test of the committee process as currently practiced.

Second, the EARP review allowed the subsequent NEB hearings to quickly focus on issues of consequence. While this could not be criticized as to duplication of effort, the ability of proponents to file panel reports as evidence to NEB could be examined as one avenue to potentially facilitate future regulatory reviews.

Third, EARP was the first step in the development of Inuit claims against the APP, a process which by the time of the NEB hearings had grown to include circumpolar diplomatic contacts. This development was somewhat unexpected, however, it serves to point out the rate and magnitude of ramifications which can grow out of the public consultation process, once begun.

It is, therefore, possible to argue both cases with similar justification: On the one hand, the impact of EARP could be judged to be seriously eroded through the application of the much more powerful (and somewhat duplicative) regulatory (NEB) processes. On the other hand, EARP clearly allowed Inuit groups time to formulate their case (on an international scale) against the APP, and the Panel's report highlighted many environmental and socio-economic issues requiring further attention.

In the last analysis, however, it was not so much the regulatory process which defeated the APP as the economic climate, availability of accessible markets and lack of analytical preparation by the proponents. The APP, the product of a period of history when even the most outlandish hydrocarbon proposals were seriously considered, in the end succumbed not to the Canadian regulatory process but to the "dismal science" of economics.

E. Lancaster Sound Drilling

Background

Lancaster Sound, often described as the eastern portal to the Northwest Passage, has been a source of adventure and fascination for centuries. The region was made famous by expeditions attempting to navigate a route to the far east in the early part of the 19th century.

Attempts to find a Northwest Passage are known from the early 1500s. A Spanish expedition sponsored by King Charles V coasted north from Cuba and Florida to Cape Race, Newfoundland in 1524. Corte-Real had earlier sailed from Lisbon under the Portuguese flag for King Emmanual to find a passage. (He sighted a coast which he took for Asia - it was, in fact, probably Newfoundland or Greenland) (Cooke and Holland 1978).

The first recorded exploration of Lancaster Sound took place in 1616, although whalers may have penetrated the area much earlier. The British Northwest Passage Expedition of Robert Bylot and William Baffin explored Smith Sound and turning south, found Lancaster Sound.

While maritime historians trace a rich history in the region of the Northwest Passage, first successfully crossed by Amundsen in 1905, (see references in Neatby (1958), Thomson (1975) and Zaslow (1971)), the region largely escaped widespread public attention in Canada until 1969, when the historic voyage of the Manhattan was announced (in 1940-1942 the St. Roch attained some notice for its dual crossing of the Passage but wartime concerns tended to detract from the significance of the event). The Manhattan announcement, however,

provoked intense national feelings to the point whereby: "... the Prime Minister felt obligated to make a 'policy statement' on the whole question of 'Canadian sovereignty' in the Arctic" (Pharand 1973).

Suddenly, questions arose over Canada's claim to the Arctic archipelago, the right of innocent passage in the region and protection of the Arctic seas from the threat of pollution. The Northwest Passage emerged as a full-blown question in international law (Pharand 1979). The Canadian legislative response to these challenges was unique and far-reaching (Pharand 1973). At the same time, much evidence had accumulated as to the biological uniqueness of the region. The passage of the Arctic Waters Pollution Prevention Act acknowledged the ecological importance of the Canadian Arctic maritime zone and also established more firm jurisdictional control in the archipelago.

In spite of this legislative background (perhaps because of it) the federal government in 1968 granted extensive permits for seismic surveys in the Lancaster Sound region. In 1971, Magnorth Petroleums Ltd. conducted such surveys and in 1974 DIAND took the precipitous step of granting an approval-in-principle for Norlands Petroleums to drill one exploratory, offshore well in Lancaster Sound. Fortunately, under the terms of the approval, specific environmental conditions were to be met prior to the receipt of a drilling authority.

In 1975, DIAND provided guidelines for environmental studies, for which the company carried out field work from 1975-1976. The federal government considered that the requirements of the approval-in-principle had not been met, however, and the opportunity for a drilling authority expired in the fall of 1977. DIAND subsequently referred the proposal for exploratory drilling to one offshore well (Dundas K-56) to EARP.

In 1978, DIAND issued guidelines for the preparation of an EIS, and the document was submitted to DIAND in June 1978. The Lancaster Sound Environmental Assessment Panel, co-chaired by J.S. Klenavic and D.W. Marshall, conducted hearings in 1978 and a report (FEARO 1979a) was issued in February 1979.

The Recommendations

The Panel's report contained five major recommendations and three 'supplementary recommendations'. The primary recommendation was for a deferment of drilling so that DIAND could "... use the time available ... to address on an urgent basis ... the best use(s) of the Lancaster Sound region ..." (FEARO 1979a: 73). Further, and in conjunction with their recommendation to DIAND, the Panel noted the importance for the proponent to demonstrate a capability to "... deal safely and

effectively with the physical hazards in Lancaster Sound and an operational preparedness to mitigate the effects of a major oil blowout".

The Panel further enunciated the need for a "comprehensive regional assessment" before any regional clearances for drilling could be granted and recommended a "... major expansion of government science programs in the north in the areas where development is proposed".

Subsequent recommendations dealt with the effectiveness of public information programs, the need for funding of intervenors and adequate follow-up mechanisms "... to monitor the degree to which the Panel's recommendations are accepted and implemented".

Application of the Recommendations

At the time of their release, the Panel's recommendations received widespread attention, particularly from northern residents and governmental agencies and the oil companies. The report had an immediate, pivotal influence on plans for offshore development in the region, and significantly changed the course of several government agencies.

Couch et al. (1981) summed up the situation:

> In 1979, a developer proposed to drill one exploratory well in Lancaster Sound in Canada's eastern arctic. But the region is a uniquely rich biological area. The Department of Indian Affairs and Northern Development requested a regional review based on a single well to avoid a series of reviews, one for each well. After reviewing the EIS and hearing the public's concern, the panel concluded it could not assess the proposal in isolation, and that the federal government should consider the broader issues that affect all uses of the area. It submitted these recommendations to the federal Minister of the Environment in February 1979. He and Cabinet accepted the Panel's recommendations. The Minister of Indian Affairs and Northern Development set up, in conjunction with the Government of the Northwest Territories, and other concerned federal departments, the Lancaster Sound Regional Study to initiate comprehensive planning for the future of the region. In December 1980, the Working Group on the Lancaster Sound Region Study issued a draft planning document for public comment.

Since that time, a regional study has been completed and a Green Paper was published in January 1982 by DIAND. The Green Paper exercise, which began in 1979, was designed to identify land use options for the Lancaster Sound region. Public

workshops were convened to discuss the resource base, review existing land uses and to discuss future options for development in the region.

The final Green Paper suggested two options for a regional planning process and government agencies subsequently started another series of public reviews to best determine the land use option most needed for the area.

Early in the review process, it became clear to the Panel that the proponents had touched upon not only regional concerns but on a broad range of issues important to local peoples. As Hurtubise and Connelly (1979) noted:

> During the course of the community visits and structured meetings, many issues of a very broad nature were raised. It was pointed out that the secondary effects which would result from oil and gas production, in the event of a hydrocarbon discovery, would be far greater than the initial exploratory well. The lack of co-ordination of government policies relating to the area was of concern; potentially conflicting uses of Lancaster Sound were identified which varied from hydrocarbon exploration to preservation of the area as a national park. Canada's international treaty obligations to protect polar bear and migratory birds were also cited. In addition, there was considerable discussion on the potential socio-economic impact of the project on the Inuit people. There was concern that the proposed drilling project could affect traditional uses of Lancaster Sound for transportation and as source of food supply. Inuit spokesmen also emphasized the importance of settling the issue of land claims. They felt that a premature decision on drilling would stall negotiations which were underway.
>
> Given the importance of these issues, it was evident that the Panel could not restrict its review to one exploratory well. In fact, acceptance of the Panel by the local people as an effective vehicle for consultation was predicated on the expectation that the Panel would take into account the whole spectrum of public concerns in its deliberations.

Given the magnitude of the concerns heard and commented upon by the Panel, extensive regional studies were conducted from 1979 to 1983. Parallel with the government's Lancaster Sound Regional Study, the Consolidex Magnorth Oakwood joint venture published a Resource Management Plan (RMP) for the region (Consolidex Magnorth Oakwood 1983).

The Consolidex RMP concludes that:

> The concerns which resulted in the deferral of drilling have now been addressed by government and industry. These

concerns, discussed at length in the Resource Management Plan, are:

- Safety Management
- Environmental Protection
- Social and Economic Impacts
- Regional Planning

With proper preparation, modern technology and well-trained personnel, drilling can be performed safely in Lancaster Sound. Safety cannot be compromised ... In the short-term, CMO plans to drill one test well in Lancaster Sound during the summer of 1985. A decision on additional wells will be made once results from the first well have been obtained. Should commercial quantities of oil be found, production could commence between the years 1994 and 2003, depending on the geological results.

With the completion of the Lancaster Sound Regional Study and major technical, environmental socio-economic research programs, knowledge of Lancaster Sound has increased dramatically since 1979 when drilling was deferred ... Sufficient information now exists that the Minister of DIAND can affirm that exploratory drilling is one of the acceptable land uses of the region.

At the time of writing, no affirmative decisions have been taken in regard to the latest Consolidex drilling proposal.

In short, the region has received significant attention since the 1979 Panel report. While economic considerations have largely influenced frontier exploration activities, the fact that offshore drilling has been deferred in accordance with concerns raises by the Panel indicates, at least, a significant response by government and industry to those recommendations.

General Conclusions

A consistent theme emerged from the interviews done with individuals in government and industry: the Lancaster Sound Panel's report had a major influence on future events surrounding Lancaster Sound, chiefly in that any serious consideration to approve drilling has been deferred since that date. To place this achievement in proper perspective, one must recall that DIAND has issued an approval-in-principle for drilling the Dundas structure in 1974.

As a direct outcome of the report, DIAND initiated the Lancaster Sound Study, culminating in the production of a Green Paper. The Green Paper has been viewed as a first step toward regional planning in the north. The DIAND Northern

Land Use Planning policy, announced in 1980, has since identified Lancaster Sound as a priority area for attention.

Many outside governments viewed the DIAND response to the Panel's report as poorly co-ordinated and very time-consuming. The Panel's recommendations were thought to have been too vague: more specific recommendations as to government responsibilities and timing could have made subsequent government activities and responses more efficient.

Nonetheless, senior government officials have responded to the issues raised in the report. For instance, the former Minister of the Environment, the Honourable Charles Caccia, has called for a 20-year moratorium on drilling in Lancaster Sound, a position supported by the GNWT.

While it is widely accepted, therefore, that EARP significantly influenced government decision-making processes, many have voiced concern over the type of response resulting from those agencies. For instance, the Canadian Arctic Resources Committee (1985) recently stated:

> In 1984, DIAND published the results of a public review of the Lancaster Sound Regional Study. This document, The Lancaster Sound Regional Study, Public Review: Public Prospect, by Peter Jacobs and Jonathan Pallug, outlines alternatives for the future use of the region. The public review was costly in public dollars and in the time and energy of residents of Pond Inlet, Resolute, Arctic Bay, Grise Fiord, and other communities. DIAND and other federal agencies have failed to respond to the results of this process. CARC is urging DIAND to agree to the 20-year old moratorium on drilling in Lancaster Sound and to act on the recommendations of the Lancaster Sound Regional Study.

Although the Panel report initially sparked much new research in the region (eventually leading to activation or attention to major programs such as the Eastern Arctic Marine Environmental Studies (EAMES), a major expansion of government science programs in the Arctic has not occurred. Research measures for fiscal restraint have had a major impact on northern research programs and certainly little is now being done in the Lancaster Sound region by government research agencies.

Reed (1984) discussed another, subtle effect of the report - it set in motion a series of events which led to an enhanced consultative process for regional developments:

> While this paper was not intended to provide a detailed study of other participatory techniques, it is recognized that appropriate alternative mechanisms can enhance the

effectiveness of the public hearing. New strategies are being introduced in northern development assessments which may have a positive effect on the hearing procedure which is already established. The Green Paper on Lancaster Sound (Canada Indian Affairs and Northern Development 1982) provided two-way communication between government and the public, while the consultative approach using workshops and seminars in the assessment of the Beaufort Sea hydrocarbon production enhanced public input on these issues. If these measures are taken before hearings are held, it is likely that the quality of public submissions at the hearings will improve due to a better-informed public. The hearing process can then serve an appropriate feedback function on issues of public concern.

In summary, the referral by DIAND of the proposed exploratory drilling program initiated a series of major events which could not have been easily predicted. The report exerted a fundamental influence on both the direction and magnitude of those subsequent events.

- The process evaluated the application for a single, exploratory well and significantly expanded the focus of the review to a regional level, where environmental and socio-economic concerns were evaluated. Indeed, the Process responded to the needs of local residents and altered both public consultations and their duration in order to accommodate those needs.

- The Panel's report significantly altered both the direction and magnitude of offshore development in the region. Any serious consideration to approve drilling in Lancaster Sound has been deferred since 1977, in spite of an issuance of an approval-in-principle in 1974 by DIAND.

- Major government initiatives led directly from the Panel's recommendations:

  - A regional planning process was initiated by government, which culminated in the production of the Green Paper in 1982 and the Lancaster Sound Regional Study, Public Review (1984).

  - Significant regional environmental research programs (both biological and physical - oceanography) were initiated by industry and government in the area. The EAMES program, for instance, attempted to address many of the ecological baseline concerns raised in the Panel's report.

The regional planning process, a concept initiated by the Panel report, has evolved into the much more complete NWT Land Use Planning Policy initiative of DIAND.

In 1974, when DIAND first issued the approval-in-principle for a single exploratory offshore well, government consultation with many northern communities in the decision-making process for industrial developments was sporadic, at best. The community consultations of the Lancaster Sound Panel changed that situation in the eastern Arctic: subsequent proponents and government representatives altered their approach to those communities after the Panel's report.

EARP provided the Government of Canada with the time and resources to carefully reassess the approval-in-principle issued by DIAND and served as a focus for the subsequent development of major government planning initiatives. "Regional planning" for the area became a commonly accepted concept after the Panel's report - a process which included the development of better communications between local communities and government.

F. The Venture Development Project

Background

Hydrocarbon exploration in the eastern Canadian offshore region has extensively probed the Sable Island area. In the late 1970s, the discovery of the Venture gas field made possible the first serious prospects for hydrocarbon development and production from the Canadian east coast.

The Venture field lies about 16 km. off the eastern tip of Sable Island which, in turn, is 210 km. from the coast of Nova Scotia. The recoverable natural gas reserves in the Venture field have been estimated to be as much as 72 billion cubic meters, which could sustain gas production of 11.32 million cubic meters per day. This rate of gas production could be maintained for up to 15 years, with decreasing production lasting for a total of 18 years (1988-2005).

The Venture project proposal consists of three major components:

- offshore gas production and processing facilities;
- a subsea pipeline to transport gas and condensate to onshore processing facilities; and
- onshore facilities to receive and process the gas and condensate.

Exploration activities began near Sable Island in 1959 with early seismic programs. In 1967, Mobil Oil drilled an exploratory well on Sable Island and discovered non-commercial quantities of hydrocarbons (Wallace 1979). Intensive

exploratory activities did not resume in the vicinity until the Venture D-23 well was completed in 1979. Subsequent delineation drilling has disclosed a complex geology and other, related hydrocarbon finds.

The Sable Island area has been a subject of Canadian attention since well before Confederation (Wallace 1979). The island was first sighted by Cabot in 1497 and attempts to colonize it were made in the early 1500s. Baron de Levy and the Marquis de la Roche (in 1539 and 1598, respectively) attempted, unsuccessfully to establish habitations there. The Portuguese introduced horses and cattle to the island in the 16th century and Le Mercier, in 1738, attempted to stock the island with horses and cattle brought from New England.

Sable Island is infamous for its shipwrecks. Difficult currents and fog, produced by local cooling of warm air from the south, contributed to the loss of as many as 500 ships on the island (a loss of life which may have reached 5,000), the last of which occurred in 1947.

The tragic loss of the British sailing ship Francis with all hands in the fall of 1799 caused the Province of Nova Scotia to establish a permanent live-saving station on the island in 1801 and in 1873 a navigation light was set up. Life-saving stations, which did, indeed, save many lives, were manned on the island until the early 1950s. The meteorological station has been maintained since 1891.

Terrain management and the biological significance of the island received impetus from the renewed oil exploration interests in the mid-1960s (Taylor 1981; Zimlicki and Welsh 1975). The growing potential for regional hydrocarbon production sparked other, economic analyses (Anon. 1981; Graham 1981). Indeed, the latter study went so far as to examine the economic feasibility of conversion to natural gas in the residential sectors of Halifax.

The proposed offshore facilities to process the Venture field gas and condensate would feed the product to a gas pipeline terminating at a landfall terminal. Field development costs have been estimated at $3 billion with annual operating costs in excess of $100 million and up to 560 permanent employees.

The historic signing of the Canada-Nova Scotia Offshore Agreement in March 1982 opened the way for the potential long-term development of offshore hydrocarbon resources in the region. At the time of writing, firm commitments by the proponents to actual development and construction activities had not been made, although exploratory activities (marred somewhat by a difficult offshore blowout) have continued.

The Recommendations

The Sable Island Environmental Assessment Panel's recommendations are contained in the report entitled Venture Development Project: Report of the Sable Island Environmental Assessment Panel (FEARO 1984).

Socio-economic questions were handled by a second Panel (referred to as the Socio-Economic Review Panel) conducted under the auspices of the Canada-Nova Scotia Oil and Gas Board. The Socio-Economic Review Panel published a separate report Socio-Economic Review: The Venture Development Project in 1983.

The establishment of the Socio-Economic Review Panel in addition to an Environmental Assessment Panel reporting to federal Ministers and the Province of Nova Scotia, meant the existence of two public review panels with distinct, but parallel roles to consider project impacts.

The Environmental Assessment Panel made thirty recommendations and another seven supplementary recommendations. The Socio-Economic Panel's report contained fifty recommendations.

The Panel report concluded that the "development and production of the venture field be allowed to proceed subject to ... conditions ...". Those conditions dealt with contingency plans, drilling procedures, monitoring, operational designs and procedures and governmental EIA processes.

The Socio-Economic Review Panel's report focused on employment, industrial economic benefits, land and renewable resource use, housing, infrastructure, safety, health and community social services, public information and involvement. A section on panel administration and the review process was also included.

Application of the Recommendations

There is considerable difficulty associated with any assessment of the recommendations made by the two panels appointed to review the Venture development proposal. First, there have been significant changes to the development proposals since the reviews were conducted. Second, the project has not proceeded to the construction/development phase. In the absence of a clear record of development activities (particularly for the socio-economic aspects of the project) discussions of the influence of the panel reports must, in many cases, be based on hypothetical, or inferred, impacts.

The panels' key recommendation was that the project could proceed subject to conditions and concerns identified in the two reports. Other important recommendations touched on continuing public consultation and the role of government agencies in providing long-term advice to the public or to senior officials. The Environmental Assessment Panel recommended that (FEARO 1984: 40):

... 3) special efforts be made by the proponent and responsible government agencies to continue consultation with the public. Information centres established during the Panel review should be maintained and a government information officer made available to assist interested members of the public;

4) the federal and provincial Departments of Environment monitor the implementation of this Report's recommendations and the proponent's commitments, and provide an annual report to their Ministers for public distribution.

It will be interesting to follow the implementation of these, and associated recommendations, if the project proceeds to the development phase. The latter is a clear attempt by the Panel to ensure a continued involvement by federal and provincial Environment departments in the public information process.

General Conclusions

The Venture Development Project had several unique aspects. First, the Sable Island Environmental Assessment Panel reported jointly to the ministers of Environment for Canada and Nova Scotia. This joint federal-provincial initiative of FEARO represented an important development in the evolution of EARP.

Aside from the demonstration of enhanced collaboration between various agencies with jurisdiction for environmental concerns, EARP once again illustrated the value of a flexible, adaptive process. Possible redundancy and public confusion was probably reduced by this federal-provincial affiliation.

Unfortunately, gains made through those affiliations in the Environmental Assessment Panel appear to have been somewhat compromised by the creation of the separate Socio-Economic Review Panel: "The existence of two panels, although they each had distinct mandates, created certain problems for public participation in the review of the project ..." (Socio-Economic Review Panel 1983:5).

The Panel went on to note:

> The Terms of Reference given to the Socio-Economic Review Panel required it to hold all public meetings jointly with the Sable Island Environmental Assessment Panel. The two panels therefore met to organize the public review process. The initial meetings indicated that there were rather strong differences in philosophy between the two panels. These differences, which were not resolved over the review period, had their foundation in the established FEARO process of undertaking a public review. The objective of having a joint review process meant that the new Socio-Economic Review Panel had to adhere to the same operational procedures as the FEARO Panel. This adherence created certain problems for the Socio-Economic Review Panel, and indeed affected the credibility of the Panel.

Based on the experience of conducting a two-panel review, the Panel went on to make a series of recommendations regarding public reviews of future projects. Indeed, the Panel went so far as to point out what they considered to be serious deficiencies in the public review process and its compatibility with the Canada-Nova Scotia Offshore Oil and Gas Board and COGLA (Socio-Economic Review 1983: 63):

> Governments must eliminate the confusion that now exists over the purpose of the public review process. If there is to be a public review process conducted by a Panel, the independence of the Panel must be established and maintained. The public will want to see the recipients of the report respond to the Panel's recommendations. Currently, there does not seem to be a mechanism in place to achieve this.
>
> The objective of a public review panel required to investigate the socio-economic impact of offshore developments are not compatible with the objectives and role of the Board and COGLA. The experience of this Panel was that this incompatibility of roles precluded a meaningful commitment to support the Panel and the public review process.

The interviews conducted in the research for this review resulted in a wide range of views being expressed about the panel process and subsequent conclusions reached by the panels. The existence of two panels was thought to have produced artificial barriers between two closely interrelated topic areas and to have introduced an unnecessary level of complexity to the public, one which distracted from the overall objective of effective community consultation.

Another difficulty cited was the lack of public commitment by various government agencies to address the Panel's recommendations once formulated. Some felt that government agencies

should be required to respond to recommendations and give reasons for accepting or rejecting them. As matters stand now, the public has little capability to assess the impacts of a panel's decisions on the agencies responsible for various aspects of the development.

It was mentioned that the project was "close to the hearts" of many federal and provincial political interests, while the aims of each party may have been significantly different. This was said to have led to tensions within the panels.

Others remarked that application of EARP brings the proposed development into wide, public view very quickly and forces proponents to review concerns highlighted by the intervenors. Nevertheless, not all those interviewed were convinced that the use of EARP produced effects much different than would have been predicted had it not been used.

It was suggested that the form of the process had been emphasized to the detriment of public consultation. The amount of time scheduled in Halifax so as to hear government agencies was thought to be disproportionately large as compared with consultations in smaller communities. It was expressed that this disproportion probably reflects the powerful (some said overly large) influence exerted by the government agencies involved in an interjurisdictional review such as Venture.

It is interesting to note that the Nova Scotia government has initiated its own follow-up with questionnaires sent out to test public perceptions of the Process. Unfortunately, these data were not available at the time of writing.

Another point which emerged centered on the timing for the Process: if scheduled too early, there is little for a panel to critically review while, if too late, development would be difficult to substantially alter. Some felt that the Venture review was scheduled too early in the development, although the subsequent delays and changes to the project were obviously difficult to foresee.

Many felt it necessary to have a public information process tied to regulatory bodies to ensure the public accountability of proponents in large regional developments. However, at present some felt that proponents have more than adequately developed the capability to address such concerns in advance of public reviews.

In spite of the low public attendance at some hearings, the intent of the Process was thought to have been fulfilled. Initial widespread interest in the project review was thought to have satisfied large segments of the public. Subsequent

sessions were thereafter attended by a "hard core" interested in questions of jurisdiction, environmental/socio-economic effects, or regional developments.

The view was expressed that EARP, in fact, accomplished its role of public consultation. Many felt, however, that the jurisdictional concerns of large government agencies have "grown out of control" and overshadowed the interests of the public in formal hearings processes. Nevertheless, many felt that individuals were heard by the process and "made a difference" to the panels.

Others expressed concerns regarding the use of "one window" agencies to co-ordinate government inputs to consultation processes, such as EARP. For instance, DFO has direct interests in fish resource management which have strong socio-economic connotations, concerns which were later seen necessary to be communicated directly to the Panels. Questions of compensation policies for fishing interests were thought to have been well addressed by the hearings process.

Others expressed a need for continued involvements from panel members, beyond the production of a report. The ongoing availability of panel members would not only provide an assessment of the success of implementation of recommendations, but would allow both proponents and regulators the opportunity to obtain clarification as to the intent of recommendations made.

Predictions and concerns regarding the potential for underwater blowouts have been confirmed by recent events surrounding delineation drilling in the region (where a serious gas blowout occurred). This, in many ways, attests to the value of the analyses done by the Sable Island Panel, which formulated those concerns.

In summary, the influence of the two panels is very hard to assess at this stage of development. As noted earlier, the lack of construction activities associated with the project make it difficult to judge the impact of the final reports.

Some conclusions are possible:

- Although jurisdictional tensions and the influence of large government agencies were felt, the public consultative-information aspects of the Process were considered by many to have been successfully achieved.

- Recommendations to the panels from government agencies were heard and generally adequately incorporated into the final reports.

- The influence of the panels' reports on government decision making is, at present, unclear. It was thought useful to develop mechanisms which could cause government agencies to respond to a panel's report within defined time limits.

- The use of two panels was widely thought to have been counterproductive to the examination of issues by the panels, and confusing to the public.

- The two reports have been well received by political and senior decision makers in federal and provincial agencies. Although implementative aspects cannot be properly assessed at this time, NEB has closely followed the recommendations in the development of regulations for the project. Fisheries compensation policies have also evolved rapidly since the time of the panels' reports.

4. DISCUSSION AND CONCLUSIONS

A. FEARO, SIA and the Public Participation Process

As noted previously (Figure 2-1), recommendations on socio-economic subject areas have constituted a substantial portion of Environment Assessment Panel concerns. Indeed, Environmental Assessment Panels have consistently recognized the necessity for consultation with local residents in many projects and have stressed avenues for local employment or expanded contractual opportunities with local firms. It could be said that panels have, as a rule, tended to adopt somewhat of an advocacy role regarding local opportunities which may be created by projects under examination.

The full impact of these types of recommendations are, however, rather difficult to assess. First, many projects reviewed by EARP have not proceeded to the construction phase and, therefore, data on employment or local opportunities were not created. Second, many proponents of projects reviewed by the EARP stated that socio-economic concerns had been, prior to the review, a high priority. In some cases, proponents stated that panels tended to reiterate concerns already identified in the EIA/SIA documents and "transform" them into recommendations. While this may not always be true, it does point out the difficulties in making a comprehensive assessment of the socio-economic impacts of decisions resulting from panel recommendations.

Indeed, these problems have been noted elsewhere. Lang and Armour (1981) stated: "While the demand to acknowledge and deal with social impacts is steadily increasing, to the point where they have been responsible for halting projects, they present formidable problems of definition, measurement and mitigation". Problems of post-assessment evaluation are no less difficult. The case studies do, however, indicate the importance of EARP socio-economic recommendations to proponents, especially when a project proceeds to the phases of construction. Problems of interpretation may result, however, when one attempts to link EARP recommendations with results achieved during and after project development.

It is, therefore, difficult to conclusively demonstrate a causal link between enhanced employment opportunities in projects and panel recommendations. Certainly proponents and, to an increasing extent, government agencies, have maintained a high profile in identifying, and acting upon, those types of concerns. It is, however, almost impossible to experimentally validate a comparative analysis of the effect which the Process has had on factors such as employment.

Perhaps it is more relevant to consider the implied effects resulting from the Process. Any proponent subject to an EARP review is required to produce EIA/SIA materials for examination in public sessions. This requirement may, in effect, represent the most substantive influence of the Process. Proponents must first assemble required data and then produce plans for public review. Proponents would be seriously remiss in that type of public forum (especially when panel representatives are local - or regional - residents) if they did not investigate and advance positive steps for local opportunities in employment. At the same time, proponents would have to consider negative socio-economic aspects of the project and strategies for mitigation.

As such, the process itself may be the most important feature of project evaluation, in that proponents must formally consider pro-active steps for socio-economic concerns, must interact with two panels in elaborating those proposals and must, in a public forum attended by local residents, respond to concerns voiced by the public, the panel and by technical experts.

Faced with such a vigorous public examination, any wise proponent would first thoroughly examine and prepare plans for socio-economic impacts. It is not, therefore, unreasonable to suggest that in this case the Process itself may be rather more important than recommendations and the degree of preparedness by proponents. A well prepared, thoughtful proponent will probably leave few recommendations for a panel to make (unless, of course, the panel simply adopts positions already advanced by proponents).

Given the developing history of EARP, it is not unreasonable to suggest that proponents understand this inverse correlation and recognize its implications. Expenditures in order to be, and to be seen to be, well prepared are, in addition to the good corporate policies in place, increasingly justifiable investments in face of the Process.

Rather than focus on the direct effects resulting from panel recommendations, it may be far more important to consider the more subtle, indirect consequences resulting from application of the Process itself.

Unfortunately, it would be virtually impossible to test any such hypotheses. Nevertheless, many representatives of proponent companies who were interviewed for this study expressed the view that the challenge of the Process assisted them, within their organizations, in obtaining the necessary funding and staff support to thoroughly examine such issues. Further, due to the public nature of the Process, the senior managements of proponent organizations have tended to cast a

careful eye on both the preparations for, and participation in, the Process by their managers.

Lang and Armour (1981) considered the Shakwak Highway Project to have been a "turning point" in the consideration of SIA issues by Environmental Assessment Panels:

> The Panel's approach, which stressed social impact, was undoubtedly influenced by the nature of the project. It was a joint Canadian/American venture, which meant meeting both EARP and NEPA requirements; it was the first project submitted that was not already fully committed; and it had obvious potential social impacts on several Indian communities.

The influence and importance of the public perception of any panel was also emphasized by Lang and Armour (1981):

> ... if the public's concerns are relevant but insufficient information is provided to back them up, people will wonder how the Panel was able to reach its decision ...

Here, a second aspect of the importance of relatively easy public access to the Process is highlighted: not only does it tend to ensure honest and forthright examination by the proponent, but public reviews have a concomitant influence on panels and the public. In each case, responsibility for a fair, public assessment falls on each participant in the process.

Further, the degree of interest in the proceedings (positive or negative) at a local, regional and national level, tends to be a good indicator to policy makers of the importance attached by Canadians to the consequences of the project being examined.

All these factors bring into focus an important strength of EARP (a virtually unique feature among government agencies): that is, its built-in capability for "self-regulation".

Operating in the public eye, without the serious technical incumberances of legal, or jurisdicational, procedures, EARP is left to its own devices to assure both relevance and fairness. This applies equally to both its proceedings and conclusions. Ironically, much criticism from various sources has, on occasion, been directed toward the Process or panels: the panels tend to invite, indeed encourage, such critiques. The consequences of this "invited self-criticism" may be viewed as positive. The Process must constantly (with each report) justify itself, not only to the Minister of the Environment, but to the proponent, public and critics.

This feature is rare among Canadian government agencies and should not be treated lightly. Indeed, the effects of such process-generated critiques have resulted in significant alterations and modifications in the Process since its inception. As Lang and Armour (1981) found:

> A trend can be observed in EARP projects. At the beginning, social impacts were not considered. Then, in the early projects, Panels and publics began to comment on the adequacy of EISs from a social impact standpoint. Social concerns were subsequently added to guidelines and were addressed in increasing breadth and depth, in EISs. Panel reports disclosed social impact issues raised during public hearings. Finally, social impacts assumed major importance in a few Panel decisions. Today, social impacts are accepted as a likely component of any EARP exercise ...

While many aspects of EIA and SIA could be better addressed in EARP reviews, the major, significant point is that over the past decade, the Process has demonstrated its ability to change, or adapt, in response to scientific, technical, political and public needs. The latter should never be underestimated in its influence on political, or governmental, bodies. Indeed, environmental impact assessment could be said to have grown out of concerns from a popular consensus about environmental problems which were increasingly identified in the 1960s.

The importance of public participation, in the context of Canadian development proposals, has also been stressed elsewhere. In the opinion of Lang and Armour (1981: 73):

> In Canada, however, public participation ... is less a "natural" component of government than in the United States, and Canadians lack the access American citizens have to information and to the courts.

Reed (1984) further highlighted related concerns:

> Dissatisfaction with these traditional forms of participation arises because significant sectors of the public perceive that government has failed to respond appropriately to the needs and demands of its citizens. When decisions are made regarding individual lifestyles and aspirations without consulting those affected, members of the public feel increasingly apprehensive of, and alienated from, government decision making. As a result, certain members acquire a profound distrust of the political system and generate a demand for a greater public role in these decisions ...

EARP, although advisory in nature, does allow for significant public input. Nevertheless, criticisms have been raised

regarding the Canadian process of public participation. Lang and Armour (1981: 73) pointed out that:

> Participation solutions in Canada often give the distinct impression of tokenism. For this reason, people tend to distrust them, assuming (as has often been said in public hearings) that the decisions have already been made ...

Further complicating these perspectives is the concern expressed by Reed (1984):

> As a result of prolonged contact with industry through the regulatory process, government agencies tend to adopt the values and biases of the industry they seek to regulate (Lucas 1971). As a result, these agencies become captives of industry and may not enforce their legislation as strongly as they first intended. Consequently, the agencies themselves require supervision and cannot be expected to regulate their own activities. These practices have given rise to a greater demand for public intervention into the traditional activities of government agencies and departments.

This widely held view of regulatory agencies is, in part, addressed through EARP, since it is a rare opportunity for the public to observe those agencies in the normal fulfillment of their duties.

FEARO, itself an institution of government, may nevertheless find itself at odds with an already suspicious public and with proponents who are subject to the review process. Conflicting viewpoints held by the public, regulators and proponents may best be resolved through the public forum, one which is readily accessible to all interests. It could be said that EARP, through the public consultation process, is a vehicle for the early definition of policy options for government.

Decision makers, on the other hand, are faced with the difficult problem of resolving who, indeed, best represents the public interest in participation processes. As Reed (1984) points out:

> There is no efficient means of assessing the intensity of public preferences or determining the public will based on those citizens who take part in the process. Participatory structures tend to favour those who are articulate, well educated, financially secure and politically aware.

Public participation programs also accrue costs, both direct and indirect. More recently (in the Beaufort Sea hearings), public intervenors have been provided with funding in order to make their case to the panels.

Direct costs associated with these, and costs of reporting, rebutting or accommodating such input, are quantifiable. Related, indirect costs, however, are far more difficult to judge. Delays to projects due to the Process may be highly significant to proponent developers. Some proponents believe that the process of public consultation exposes them to needless expenditures. Ironically, the more successful the process of public review, the more proponents may object to it: as more people become involved in the decision-making process, the more costs may be accrued and the time needed to hear, and account for, their views may extend project delays.

There have been other experiments in public inquiries in Canada, most notably the Berger Mackenzie Valley Pipeline Inquiry (1974-1977). As with any public review process, the general consensus maintained by Justice Berger throughout the Inquiry was that the hearings would be fair, thorough, flexible and accessible (Gamble 1978). Justice Berger's approach was in many ways unique among Royal Commissions because he actively encouraged and sought out views and representations from all potential participants, particularly native peoples.

Reed (1984) suggested that after an analysis of the literature, at least six criteria must be fulfilled if the hearing mechanism is to "provide for a full and fair hearing of all parties concerned:

1. ... there should be a legislative requirement that all members of the public be given the right to participate in the resolution of environmental issues;

2. ... the legislation should provide for public participation early in the decision-making process when first-order questions are under review and before any irrevocable decisions are made on a proposal;

3. ... there should be sufficient notice of the hearing and its procedures to all interested members of the public;

4. ... the public [should] be assured of the impartiality of the board which is presiding over the hearing;

5. ... all participants in a hearing [should] have access to all relevant information and government expertise well in advance of the hearing; and

6. ... all interested persons [should] be provided with research time and financial aid according to some predetermined criteria.

The degree to which these pivotal elements are incorporated into public hearings processes will directly influence both the public acceptability of the proceedings and, therefore, the impact of conclusions reached. Justice Berger incorporated many of the above-noted elements into his inquiry process in ways designed to maximize credibility and, therefore, the impacts of the conclusions reached. Formal hearings assessed expert testimony, special hearings focused attention on specific project risks, informal community hearings sought out local opinion and southern hearings brought the inquiry to national attention.

While the experience gained from the Berger Inquiry may not be directly transferable to EARP, elements of the six points noted above will shape the impact of conclusions reached through any public process. This, once again, stresses the self-regulating aspects of any public process and implies its value among government institutions which function largely outside public view.

Any public review process will always find it necessary to "look over its shoulder". Fairness demands a strong sense of responsibility to proponents, government and the public alike. While this leads to difficult balancing of local, regional and national interests, the point is that the review is carried out in public. Processes which could not adapt to incorporate changing needs for accessibility and flexibility would rapidly find themselves without an interested constituency - within, or outside, government.

The fact that EARP has grown and successfully adapted over the past decade indicates that the Process has been capable of responses flexible enough to maintain public credibility. Moreover, the criticisms directed at the Process have, in effect, maintained the "dialogue" between government and public interest groups. On the other hand, Gibson (1983), for instance, pointed out the problems stemming from an ad hoc evolutionary responsiveness and to the significance of larger contextual issues that reforms to EARP alone cannot hope to address adequately. He stated that:

> The Beaufort case suggests that there may not be limited value in leaving EARP ill-defined in the interests of "responsive flexibility" because the prevailing demands for adjustments to the process are contradictory and ad hoc responses to these demands will tend to be incoherent. Certainly the Beaufort Panel is a victim of incompatible ad hoc responses to conflicting demands . . .
>
> . . . The conflicting pressures faced in the Beaufort case are generally applicable and likely to increase in the future. Public awareness of environmental hazards is

> rising and proponent demands for early approvals are continuing, if not also growing. Continued reliance on ad hoc responsiveness is therefore likely to result in a variety of unsatisfactory case-specific attempts at compromise. A flexible EARP may thus evolve more toward greater incoherence and inconsistency than toward more effective environmental assessment.

Attempts, on the other hand, to define EARP in rigid statutory requirements may not provide an adequate solution to the concerns raised by Gibson. Rigid, legislative requirements force both proponents and the public into precisely defined procedures, similar to the NEB, which may not be responsive to public expectations for various project reviews.

Other authors, however, have disagreed with this viewpoint. Gamble (1981) noted:

> First, there is a need for more legislation - not less. I suggest that we need an environmental protection act to sort out the role and responsibilities of the federal government on all environmental matters. We also need to abolish the current ad hoc EARP and build in its place, from a new and solid legislative footing, a federal planning and review process that is rigorous, sensible, and just. Both these things must be tailored to legislative changes that would see significant responsibilities transferred to native people and to the representative governments of the territories through constitutional development.

Powledge (1984) expressed similar sentiments in his recent overview of environmental protection in Canada:

> Canada's system for assessing the effects of environmentally sensitive projects is quite different from the one that the U.S. Congress mandated in the National Environmental Policy Act of 1969. The Canadian Environmental Assessment and Review Process, established by Cabinet action in December 1973, is totally devoid of legal force.
>
> Rather, it is a declaration of policy by the government, and as such it avoids litigation by dissatisfied proponents or opponents of a project under review. There is no power to subpoena witnesses, no sworn testimony. The developers of projects - government departments, corporations, individuals - write their own environmental impact statements, and the federal panel that reviews these projects is empowered only to send its conclusions along to the Minister of the Environment, who is under no compulsion to follow them. Thus, important environmental decisions are

made "at the political level", which is what Canadians say when they mean behind the closed doors of the Cabinet.

The conclusion reached by Powledge (1984) is that such an unstructured system has allowed many "gaps" to develop in the Canadian environmental screening process:

> Most environmental decisions don't even get to the formal review stage. Under Canada's federal assessment process, the developer is responsible, in the words of a government report, for "screening his own activity for potentially significant adverse environmental impacts early in his planning" "... And in the review process, as in other dealings by federal and provincial governments with environmental issues, activists and other members of the public are severely restricted in their information-gathering ability. Many (some would say all) important and far-reaching decisions are made in private by public servants."

Hurtubise and Connelly (1979) voice a contrasting view, however, one which once again extolls the value of a flexible, non-legislative, process. They offer several examples, from past project reviews, of how EARP accommodated the needs of specific panels:

> Since the Environmental Assessment and Review Process is based on Cabinet directives rather than an Act of Parliament, it is flexible and can be readily adjusted to accommodate changing needs.
>
> In the two northern projects (Shakwak Highway and Lancaster Sound), for example, the Panels held informal community meetings in which the public defined the issues of importance, as well as more formal, structured meetings where discussion of a more technical nature occurred in accordance with an established agenda. In all projects, public meetings are held to review the Environmental Impact Statements, however, the nature of public consultation prior to the meetings may vary according to the specific project. In the Eldorado case study, for example, public meetings were also held to determine deficiencies in the Environmental Impact Statement; in the case of Roberts Bank, the public and government agencies were invited to submit written deficiencies; in the Lancaster Sound and Shakwak Highway projects, deficiencies were not sought prior to the final public review. The convening of informal public meetings, together with more formal public reviews, especially for northern projects, is becoming accepted as an effective means of gaining public input ...
>
> While the main purpose of public meetings is to allow the Environmental Assessment Panel to gather as much

> information as possible in order to make recommendations to the Minister, it is also in many cases a learning experience for the participants. Procedures are being developed to ensure that interested parties have sufficient time to prepare briefs and that intervenors are given a reasonable opportunity to present their case at Panel meetings.

The latter point, the value of EARP as a "learning process" for all participants, may also be an important spin-off. It could be argued, however, that any public consultation/review process, informal or legislative, would constitute such a process of learning.

The point is that these opposing forces (an ad hoc approach vs. a legislative mandate for EARP) will probably never be settled to the satisfaction of everyone. Proponents, and perhaps communities, may favour a process which allows for flexibility. Public interests, or groups opposing the proponents, will probably always favour a process which has clearly defined rules and procedures. Each approach has advantages and disadvantages.

It is perhaps more important to remember that the intent should always be to achieve a public consultation process which is seen to be fair, thorough, flexible and accessible. Indeed, given attainment of those four criteria, it is difficult to imagine how, in any Parliamentary democracy, decision makers could ignore fundamental recommendations from an independent panel which operates in the public eye.

B. Mechanisms for Public Review: Alternatives and Choices in the Decision-Making Process

The federal decision-making process has recently been extensively reviewed by a number of sources, particularly for project developments in the North. Many studies have been produced (i.e. Gibson 1978) which have concluded that there is a need for careful public scrutiny of government officials. This climate of distrust is further aggravated by the need to reconcile opposing interests in any decision-making process. In the North, for example, there are numerous examples of disillusionment. A good example of the industry perspective was presented in Hemstock (1984):

> Again, the word of warning is that you should be prepared for long delays when dealing with DIAND in controversial applications for land. Land claims, unidentified park boundaries, and numerous other issues all come into play with DIAND's review process. Should you be faced with having to run through such a gauntlet, it is best to do so with your eyes open and a general appreciation of what can be expected. With this in mind, it is hoped that Gulf's

> experience with the Stokes Point application can be of some help.

Without question, the role of the federal government is often central to the future of many regions of Canada. As Graham et al. (1984) noted, this role is particularly clear for northern regions:

> The federal government continued to be faced with the difficult task of reconciling national interests and responsibilities with the aspirations of northerners and of the industrial sector. This balancing act will continue, regardless of the pace of development. It would appear that the federal government's predisposition is to deal with this situation by retaining control over the pace and nature of political development, the eventual terms of any land claim settlements, and the pace and nature of industrial development. This approach will likely mean that the course of federal activity will continue to be difficult.

Good examples of how the federal government maintains that "balancing act" are provided by an examination of two diverse, but complementary, bodies with capabilities for public consultation - FEARO and NEB.

Dissimilarities are, however, more prominent between the two bodies. In order to fulfill its mandate, NEB is given formal investigative powers under Part I of the Inquiries Act whereas EARP has provisions for information public consultations. NEB studies, reviews, reports and makes recommendations on matters related to energy. The recommendations are made to the Minister of Energy, Mines and Resources. Major differences arise in consideration of the regulatory functions and requirements for public hearings between the two agencies. NEB, for instance, performs a number of direct regulatory functions (i.e. gas and oil pricing and transportation) whereas FEARO has only an advisory/public consultation role. Furthermore, NEB is not required under the Act to hold public hearings in respect of the issuance of either a certificate of public convenience and necessity or an export licence (Reed 1984; Lucas et al. 1979; Lucas and Bell 1977).

NEB is empowered to restrict the public consultation process, in ways in which FEARO does not. NEB is required to consider the objections of "interested persons" in the certification process; however, it is empowered to decide who will be deemed to represent "interested persons". Hence, as opposed to FEARO where entry to the public consultation process may be accomplished with relative ease, NEB has the discretion to designate status for potential intervenors should it decide to proceed with public hearings.

Reed (1984) further enumerates other factors which may inhibit the successful participation by public interest groups. Hearings undertaken by NEB are formal and based on judicial models. Participants may be represented by counsel and formal rules set out procedures for assessment of documentation and cross-examination of witnesses.

Procedures such as these require significant support from scientific, technical and legal quarters - the cost alone of which would be prohibitive to most public interest groups, or individuals. Indeed, Reed (1984) cites data from Franson et al. (1973) which indicate that in 1973 the cost of "an adequate, but modest presentation at a hearing on a northern pipeline issue" would be $100,000 for investigations, briefings, and sittings lasting for 30 days. Further, the public usually cannot afford either the time or money to travel to Ottawa to review NEB files and has little time (generally less than four weeks) to prepare a statement.

Reed (1984) summed up these concerns:

> Thus the lack of adequate information and sufficient time to develop a thoughtful submission may place an intervenor at a distinct disadvantage to the applicant. The cost to hire technical experts to help prepare testimony may be prohibitive to the average public interest group. The National Energy Board has no history of making information or funds more readily available to potential intervenors. The result may be poor quality testimony or even the exclusion of public members from the hearings procedure.

Page (1981) also noted the inherent "conflict of interest" which the public often perceives in regard to NEB hearings on energy projects:

> Overall, the NEB suffers from its dual role as both private adviser on energy policy and regulator of the industry where government itself is one of the most active owners. In this case, can it objectively appraise the merits of the project when it has helped to create policies to maximize oil production and the federal government is part owner and principal beneficiary of the expanded production.

Many of the items earlier noted as being necessary to achieve a perception of fairness, flexibility and accessibility in public consultations (noted in Section 4-A) are not readily met by NEB. Indeed, by comparison, mechanisms in place for EARP, as regards public access, appear to be superior in spite of the concerns detailed by Gibson (1983) and others. EARP has become the most important means by which the Government of Canada has evaluated large-scale, resource development proposals regarding environmental and social impacts (Reed 1984; Sewell and Foster 1981).

Concerns, nonetheless, have been expressed regarding access to EARP by the public (Reed 1984). The type of information to be made public and the definition of "significant" projects have been controversial among public interest groups (Rees 1980). These concerns are summed up by Reed (1984):

> Without any legislative provision giving members of the public the right to participate and to obtain access to information, the Environmental Assessment and Review Process cannot ensure the public of an effective means of participation.

Emond (1978) and Rees (1980) suggested mechanisms to facilitate public involvement, suggestions which were at least partly addressed by FEARO in the consultative process to identify relevant issues and guidelines for an EIA for the Beaufort Sea hydrocarbon proposal.

As Reed (1984) commented:

> This measure was perhaps the first time that the public was invited to participate in the assessment of a proposal before a specific application was made, and allowed for first order policy issues to be discussed among the federal and territorial governments, industry representatives, native organizations and public interest groups. This effort is a positive step in improving the quality of public participation.

These comments tend to reaffirm the earlier views expressed regarding the inherent flexibility of EARP, especially in relation to regulatory processes. Indeed, other examples of change within EARP include the broadening of its mandate to allow for consideration of socio-economic issues for the Arctic Pilot Project and for the Beaufort Sea Panel (Reed 1984).

EARP emerges as the primary, flexible vehicle for public input to project reviews. While hearings held under NEB may consider environmental effects (as was done in the case of the Arctic Pilot Project), there is no specific mandate for NEB to do so. As noted by Thompson (1978):

> Neither the tradition and expertise, nor the legislative mandate of the Board lends itself to ... complex socio-economic and environmental assessment.

Far too often in Canada, the right to participate in public consultations outside the EARP review remains a matter for administrative discretion (Reed 1984):

> Even agencies such as the National Energy Board and the territorial water boards which appear to guarantee public access to proceedings have statutory powers which disclose discretion to limit or exclude participation.

FEARO has taken positive steps to broaden access to planning for major development reviews, once again underlining the value of a flexible process (Reed 1984):

> The recent Beaufort Sea production hearings are an example of hearings being used as an anticipatory planning tool rather than a reactive mechanism in response to a specific industry application to government.

The demonstrated flexibility of EARP and its access to the interested public, place it in a unique position within the Canadian decision-making process. This position has, by definition, a profound influence on associated regulatory bodies. This is not to deny the existing jurisdictional overlaps between federal agencies, particularly in the Canadian Arctic. DIAND, NEB and FEARO have all dealt with problems related to northern hydrocarbon development, for instance, and each has been delegated authority to investigate environmental, and socio-economic issues in the past (Reed 1984). This confusing, expensive and, at time, time-consuming jurisdictional tangle awaits resolution.

Other reviewers have discussed these issues at length (Peterson et al. 1984). They note:

> ... one must question if the national interest is fully served by (NEB) licence requirements that do not consider environmental and socio-economic "costs" as part of the overall base against which rates are set for development.

Those authors, anticipating possible changes to the evaluative mechanisms in Canada, continued by stating:

> It seems logical that should NEB be given a broader mandate for consideration of environmental and socio-economic questions, there should be a concomitant obligation for that licencing body to make adequate provision for funding avenues proportional to the development. These complex questions of revenue allocation, northern representation and licencing requirements of the NEB would have to be carefully considered in further studies.

The Dene Nation (1983) also raised questions in its Brief to the Beaufort Sea Panel regarding the perceived role of NEB during the Norman Wells hearings:

> Unfortunately, it is the NEB which has the power to deal with or to ignore many of the problems which surround large energy projects. The NEB is at the same time too biased towards industry and too distant from the people and places which will bear the major share of the adverse impacts of these projects. This allows the NEB to approve a project even though it realizes that local people will derive little, if any, benefit from it and will likely suffer from its impacts. The Board itself acknowledged this situation in the case of the Norman Wells pipeline on page 126 of its report ...

These and associated points in the Dene Brief resulted in an endorsement of EARP by the Dene.

In short, any steps to broaden the decision-making mandate of NEB will have to strongly consider the role and function played by EARP. This in itself is a clear acknowledgement of the important impacts generated by EARP on associated federal agencies. Clearly, steps made to streamline Canadian regulatory-review processes will have to satisfy an interested public that the role of FEARO is not diminished.

The Report of the Special Committee of the Senate on the Northern Pipeline (Hastings Committee 1983: 73) also dealt with regulatory-process overlaps in the North:

> The NEB, as a quasi-judicial body, admittedly is a rather special case; nevertheless, there is not much evidence to show that other agencies are relying on each other's expertise in order to cut down on review processes. DIAND, DOT and FEARO all have mandates to carry out separate assessment processes which overlap in subject matter, especially in the environmental dimensions of projects. The Committee believes that it is possible to rely much more on existing information and to treat each review process as a segment of the whole regulatory regime so that repetition is avoided.

The Committee went on to recognize the value of EARP and its inherent flexibility to respond to various proposals in proportion to the project:

> While procedural fairness dictates that all project proponents should be treated equitably, not all projects share the same national interest concerns. The FEARO Process recognizes these differences and requirements match the impact of the project. The same type of principle could be applied to all regulation, so that the stringency of the controls should correspond to the significance of the national interest considerations of the project.

The Committee (Hastings Committee 1983: 68) clearly frowned on the degree of regulatory overlap presently extant in the North:

> Since all oil and gas activities are carried out on public lands, the EARP Panel is significant in the planning, design and implementation of major projects ... The fact that this (Beaufort Sea) comprehensive environmental and socio-economic assessment is taking place has not prevented other agencies from completing their own reviews. The tendency is for the same material to be presented by the same parties using the same arguments. In the Committee's view, such repetition only frustrates the process and does not contribute to protection of the environment.

Another influence of EARP on Canadian decision-making agencies is that environmental and socio-economic considerations have been "institutionalized" to the degree where the proponent and public have come to expect a full assessment of each. Future regulatory reviews will have to carefully consider the full implications of changes to this process.

Yet another subtle, yet important, role for FEARO is to assist government in the resolution of jurisdictional roles and responsibilities in environmental protection and management. Not an insignificant corollary to this is the role which the Process plays in clarifying those roles to the public.

The existing jurisdictional mandates for environmental protection in Canada are often subject to considerable interpretation in their application to specific project developments. As Sewell and Foster (1981) noted:

> Most relevant legislation leaves large areas open for interpretation and it is not unusual for disagreements to arise over what is, and is not, included in the environmental mandates of particular departments. The scope of this problem is apparent when it is recognized that there are more than twenty separate Acts that assign significant environmental monitoring and protection responsibilities to departments other than Environment Canada. These include the Fisheries Act, the Arctic Water Pollution Prevention Act, the Navigable Waters Protection Act, and the Hazardous Products Act. Moreover, there are more than a dozen federal agencies that have well-defined responsibilities in the environmental management field, and many others which believe they have powers and functions to perform in this connection. A basic difficulty that arises from this situation is that Environment Canada is uncertain as to precisely what constitutes its mandate. Another is that responsibilities can be allocated to various line agencies, thus reducing the area in which Environment Canada can legitimately and effectively operate.

It is evident that this situation is very unsatisfactory.

Application of EARP can serve to clarify the institutional roles necessary in projects under review. Moreover, the Process can actually act to facilitate the legitimate roles of those departments with clear jurisdictional responsibilities. This was the case in the Lancaster Sound review in which necessary steps for regional planning were spelled out for DIAND. In the Banff Highway review, Environment Canada, through Parks Canada, was able to more clearly discharge its responsibilities for environmental management vis-à-vis the more development-oriented Department of Public Works, responsible for highway construction.

In short, existing institutional arrangements for environmental management and protection have often been significantly clarified through EARP for both the public and for government institutions. The Process has allowed government to focus on project concerns which relate to the specific mandates of each agency in open consultation with the public. Hence, a broad spectrum of opinion is obtained by Environmental Assessment Panels which provides a base for the development of consensus regarding subsequent recommendations.

C. Common Themes

The case studies and the overview of Environmental Assessment Panel reports produced to date allow several general conclusions to be reached:

- Use of EARP generally allows government agencies and public interests to focus on their objectives in a neutral, accessible public forum. Conflicts of interest, therefore, tend to be diminished.

- The neutral forum provided by EARP has often allowed government agencies to clarify, in a public setting, their respective roles and responsibilities for each project. Interest groups and the public are able to participate in this process and so are better able to understand the role of government(s). Public consultations allow individuals or communities to express their expectations of aspects of major developments.

- Panel reports have assisted regulatory agencies in the identification of important issues. Similarly, public interest groups have been better able to focus on their interests, following panel reviews.

- Projects which are well-defined allow panels to better develop specific recommendations. These types of project-specific recommendations appear to have a greater probability for successful implementation.

- Panel recommendations which have led to the implementation of post-assessment review committees appear to have strongly contributed to the successful implementation of concerns identified by EARP. Furthermore, the creation of such committees appear to facilitate continued co-operation between, and communications with, many government departments and public interests.

- Projects which have taken a "phased" approach to development appear to be more successful in the implementation of panel recommendations.

- In many cases, the fact that EARP was initiated tended to ensure that a careful examination of environmental and socio-economic concerns did occur. The use of the Process could, therefore, be considered to have elevated both the quality and quantity of information useful to the decision-making process.

- In cases where panels have advised deferral, or relocation, of projects, profound consequences have resulted in government and proponent activities related to the developments. In some case, government policy reviews have been initiated which have, in turn, significantly influenced subsequent development activities.

- EARP has allowed decision makers to take advantage of a fully developed consensus through a public consultation process.

- Co-operation between federal and provincial government departments generally appears to be facilitated by the Process.

Future research could usefully be focused on several major study areas:

- Mechanisms which require appropriate government agencies to respond to panel reports, within specified times, could enhance the effectiveness of the Process. Subsequent reviews of the degree to which panel recommendations have been implemented could enhance both government and public perceptions of the effectiveness of EARP. An assessment of various alternatives to implement such reviews could be useful. Further research is required to assess the degree of implementation of various types of panel recommendations and to assess the reasons for success, or failure, of approaches taken by various panels.

- Cases where departmental "self-assessments" have not led to full panel reviews could be examined to assess the degree of environmental protection achieved (or not achieved).

This could help to better define cases where the formal component of the Process should be invoked.

- The effect of socio-economic recommendations made by panels are more difficult to assess. Research could usefully be focused on methodologies to measure the degree of success of this type of recommendation.

- In many respects, EARP and subsequent NEB hearings represent a continuum of project reviews. Each process has different strengths and interests in project developments, which are largely complementary. Studies could be done on methods to make more efficient the liaison of each agency for major project reviews. Similarly, a review of mechanisms to enhance territorial or provincial participation in the Process should be done.

- Future studies could usefully examine mechanisms to provide both proponents and government agencies access to panel members during the development phases of projects. This access could also help to clarify the intent of panel recommendations.

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APPENDICES

APPENDIX A:

ENVIRONMENTAL ASSESSMENT PANEL
REPORTS TO THE MINISTER OF ENVIRONMENT

APPENDIX B:

AN ANALYSIS OF RECOMMENDATIONS
FROM ENVIRONMENTAL ASSESSMENT PANEL REPORTS
(1-24) BY CATEGORY

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APPENDIX A

ENVIRONMENTAL ASSESSMENT PANEL REPORTS BY NUMBER AND DATE

REPORT NUMBER:	TITLE AND DATE:
1.	Point Lepreau New Brunswick Nuclear Generation Station, May 1975.
2.	Wreck Cove, Nova Scotia, Hydro- Electric Project: July 1977.
3.	Alaska Highway Pipeline, Yukon Territory, August 1977.
4.	Eldorado Nuclear Limited, Uranium Refinery, Port Granby, Ontario, May 1978.
5.	Shakwak Highway Project, Northern B.C. and Yukon, June 1978.
6.	Eastern Arctic Offshore Drilling Project, South Davis Strait, N.W.T., November 1978.
7.	Lancaster Sound Offshore Drilling Project, N.W.T., February 1979.
8.	Eldorado Uranium Hexafluoride Refinery, Ontario, February 1979.
9.	Roberts Bank Port Expansion, Roberts Bank, B.C., March 1979.
10.	Alaska Highway Gas Pipeline Project, Yukon Hearings, August 1979.
11.	Banff Highway Project, East Gate to km 13, October 1979.
12.	Boundary Bay Airport Reactivation, November 1979.
13.	Eldorado Uranium Refinery, R.M. Corman Park, Saskatchewan, July 1980.
14.	Arctic Pilot Project, Northern Component, N.W.T., October 1980.
15.	Lower Churchill Hydroelectric Project, December 1980.
16.	Norman Wells Oil Field Development and Pipeline Project, January 1981.

REPORT NUMBER:	TITLE AND DATE:
17.	Alaska Highway Gas Pipeline Project, Yukon Territory, Routing Alernatives, Whitehorse/Ibex Pass Region, July 1981.
18.	Banff Highway Project, km 13 to km 27, Alberta, April 1982.
19.	Beaufort Sea Environmental Assessment Panel, Interim Report, April 1982.
20.	CP Rail, Rogers Pass Development, Preliminary Report, April 1982.
21.	Alaska Highway Gas Pipeline, Technical Hearings, Final Report, June 1982.
22.	CP Rail, Rogers Pass Development, Final Report, August 1983.
23.	CN Rail Twin Tracking Program, Interim Report, September 1983.
24.	Venture Development Project, December 1983.
25.	Beaufort Sea Hydrocarbon Production and Transportation, Final Report, July 1984.
26.	Port of Quebec Expansion Project, September 1984.

APPENDIX B

AN ANALYSIS OF RECOMMENDATIONS FROM ENVIRONMENTAL ASSESSMENT PANEL REPORTS (1-24) BY CATEGORY

A. SOCIO ECONOMIC-RELATED RECOMMENDATIONS

Category of Recommendation	EARP Report		
	Report Number and (Short Title)	Recommendation Number	Section Reference
I. Recommendations in Favour of Further Community Consultation Involvement			
Enhanced/Continued Local Consultations	5 (Shakwak)	8,19,20,32	-
	6 (Eastern Arctic Drilling)	9f,10b	-
	7 (Lancaster Sound)	(i)	5.6
Information/ Liaison Programs	8 (Eldorado)	1,2,6,8	7.2.1,7.2.3
	9 (Roberts Bank)	8	pg.52
	12 (Boundary Bay)	15a,b,c,d	pg.49
	14 (Arctic Pilot Project)	1,6,7,8,11	106
	15 (Lower Churchill)	13,15,17	5.1
	16 (Norman Wells)	3,27,50,51,58, 59,60	7.1,7.2
	23 (CN Rail)	2,5,6	pg.15
	24 (Venture)	3	15.2
II. Recommendations Advocating Enhanced Local Involvements/Hiring			
Enhanced Local Recruitment/Hiring or Contracting	5 (Shakwak)	25,26,27	-
	6 (Eastern Arctic Drilling)	9e	-
	8 (Eldorado)	1	7.2.4
	14 (Arctic Pilot Project)	5,6,8,10	-
Training	15 (Lower Churchill)	11,19	5.1
	16 (Norman Wells)	31,32,33,34,35, 36,37,38,52	7.2
	17 (Alaska Highway)	1	27
III. Aspects of Financial Compensation			
	6 (Eastern Arctic Drilling)	9b	-
	15 (Lower Churchill)	3,5,7,10,18	5.1

A. SOCIO ECONOMIC-RELATED RECOMMENDATIONS (cont'd)

Category of Recommendation	EARP Report		
	Report Number and (Short Title)	Recommendation Number	Section Reference
III. Aspects of Financial Compensation (cont'd)			
	16 (Norman Wells)	30	7.2
	24 (Venture)	15,21	15.1

B. RESEARCH/MONITORING RELATED RECOMMENDATIONS

I. Recomendations to Address EIA Deficiencies Or to Prepare Additional Statements

Further Data Submission	1 (Point Lepreau)	1a,b	-
	5 (Shakwak)	18,24	-
	7 (Lancaster Sound)	7	5.1
	9 (Roberts Bank)	10d	-
EIA/SIA Be Prepared or Enhanced	3 (Alaska Highway Pipeline)	1,3	-
	5 (Shakwak)	10	-
	9 (Roberts Bank)	10b	-
	10 (Alaska Highway Pipeline)	-	-
	15 (Lower Churchill)	3	5.2
	16 (Norman Wells)	28	7.2
	21 (Alaska Highway Pipeline)	8,16	-

II. Recommendations for Future Research

	1 (Point Lepreau)	2b	-
	3 (Alaska Highway Pipeline)	-	pg.52
	5 (Shawak)	7	-
	6 (Eastern Arctic Drilling)	9a	-
	7 (Lancaster Sound)	5.5	-
	8 (Eldorado)	1,2	7.2.4
	9 (Roberts Bank)	9a,b,c,10a	-
	10 (Alaska Highway Pipeline)	-	pg.57

B. RESEARCH/MONITORING RELATED RECOMMENDATIONS (cont'd)

Category of Recommendation	EARP Report		
	Report Number and (Short Title)	Recommendation Number	Section Reference
II. Recommendations for Future Research (cont'd)			
	11 (Banff Highway)	7,10	5.1,5.2
	12 (Boundary Bay)	4,5	pg.47
	13 (Eldorado)	1a,b,c,d,e,f,g, h,2,3	4.3
	14 (Arctic Pilot Project)	1,2,3,4,5	-
	16 (Norman Wells)	1(ix),3,10,13, 14,19,20,29,53	7.2
	18 (Banff Highway)	1(ii),(iv),(v), (vii),2,3,4,6,9	4.1,4.2
	20 (CP Rail)	1,2,6	4
	21 (Alaska Highway Pipeline)	1,2,3,8,9,10,12, 15,18,21,22	5
	23 (CN Rail	-	5.4.4
	24 (Venture)	5,6,7,8,9,26,27, 28	15.1
III. Recommendations for Future Monitoring			
	1 (Point Lepreau)	2a	-
	3 (Alaska Highway Pipeline)	4	-
	5 (Shakwak	22,28,29,30	-
	8 (Eldorado)	1,3,4,5	7.2.1
	9 (Roberts Bank)	9	-
	14 (Arctic Pilot Project)	1,2,3,4,7,8	98,102
	15 (Lower Churchill)	1,2,4	5.1
	16 (Norman Wells)	23,25,26,44,52	7.2
	18 (Banff Highway)	1(x),(xi),(xii), (xiii),2(iii)	-
	21 (Alaska Highway Pipeline)	13a,d,20,23	-
	23 (CN Rail)	1,2	3
	24 (Venture)	4,5,24,30	15.1

B. SOCIO-ECONOMIC RELATED RECOMMENDATIONS (cont'd)

Category of Recommendation	EARP Report		
	Report Number and (Short Title)	Recommendation Number	Section Reference
IV. Recommendations for Future Planning			
	3 (Alaska Highway Pipeline)	5	-
	5 (Shakwak)	5,6,15,33,35	-
	8 (Eldorado)	2,5	7.2.1,7.2.4
	11 (Banff Highway)	3,9	5.1,5.2
	15 (Lower Churchill)	9	5.1
	16 (Norman Wells)	4,7,16,21,22,40, 41,42,43,47,49, 50,54,57	7.2
	18 (Banff Highway)	1(viii),(xiv), (xvii),10	4.2
	21 (Alaska Highway Pipeline)	13b,c,14,25	5
	24 (Venture)	30	15.1
C. PROJECT-RELATED RECOMMENDATIONS			
I. Recommendations that Project Be Stopped, Deferred or Relocated			
	4 (Eldorado Nuclear)	5.1	pg.36
	7 (Lancaster Sound Drilling)	5.2(1)	pg.76
	13 (Eldorado Refinery -Warman)	4.1	pg.51
II. Recommendations for Project-Specific Change or Modifications			
	1 (Point Lepreau)	1b	pg.11
	3 (Alaska Highway Pipeline)	4	pg.53
	4 (Eldorado)	6.1.1,6.1.2, 6.1.3,6.1.4,	6.1
	5 (Shakwak)	1,2,9,11,13,14, 16,21,23,31	-
	6 (Eastern Arctic Drilling)	8b,9c	pg.41,43

C. PROJECT-RELATED RECOMMENDATIONS (cont'd)

Category of Recommendation	EARP Report		
	Report Number and (Short Title)	Recommendation Number	Section Reference
II. Recommendations for Project-Specific Change or Modifications (cont'd)			
	7 (Lancaster Sound)	5.2e,i,5.3a,b,c,d,e,f,i,	pg.75
	8 (Eldorado)	1,2,4,6	7.2.1
	9 (Roberts Bank)	B.1,2,3,4,5,6,7, C.1,2,3,4,5,7,8	pg.51,53
	11 (Banff Highway)	4.2(5),5.1(1),(2),(3),(4),(5),(6),(7),(10),(12),5.2(1),(2),(4),(5),(6),(7),(9)	-
	12 (Boundary Bay)	1,2,3,7,9,10,11,12,13,14	pg.47
	13 (Eldorado)	4.2.1(a),b,c,d,e	4.2.1
	14 (Arctic Pilot Project)	1	p.94
		1,2,3,4,5,6	p.95
		1,2	pg.100
		1,2	pg.101
		4,5,6,7,8,9	pg.102
		1,2,3,4	pg.104
	15 (Lower Churchill)	1,2,3	5.2
		8,9,12,14,15,17	5.1
	16 (Norman Wells)	2,4,5	pg.73
		1,2,3,4,5,6,7,8,9,10	pg.75
		11,12,13,14,15,16,17,18	pg.76
		42,45	pg.78
		54,55,56	pg.80
	17 (Alaska Highway)	2,3,5,7,9	pg.28
	18 (Banff Highway)	1(i),iii,iv,v,vi,vii,2ii	4.1
		1	4.2
	20 (CP Rail)	3,6	4
	21 (Alaska Highway Pipeline)	4,5,6,7,13b,c	5
	22 (CP Rail)	4,5,7	4

C. PROJECT-RELATED RECOMMENDATIONS (cont'd)

Category of Recommendation	EARP Report		
	Report Number and (Short Title)	Recommendation Number	Section Reference
II. Recommendations for Project-Specific Change or Modifications (cont'd)			
	23 (CN Rail)	5.5.6	14
	24 (Venture)	1,2,3,11,18,25	15.1

D. PROCESS-RELATED RECOMMENDATIONS

I. Recommendations Regarding FEARO or EARP

	2 (Wreck Cove)	1,2,3	pg.10
	4 (Eldorado)	6.2.1,6.2.2, 6.2.3,6.2.4, 6.2.5,6.2.6	6.2
	6 (Eastern Arctic Drilling)	10a	-
	7 (Lancaster Sound)	5.6(iii)	-
	8 (Eldorado)	3,6	7.2.4 7.2.1
	21 (Alaska Highway Pipeline)	7	5
	24 (Venture)	1,2	15.2

II. Enhanced Mechanisms for Co-ordination

	3 (Alaska Highway Pipeline)	2	-
	5 (Shakwak	3,4,17,34	-
	9 (Roberts Bank)	8,10c	-
	11 (Banff Highway)	8,11	5
	18 (Banff Highway)	(xvi)	1
	20 (CP Rail)	5	4
	24 (Venture)	4	15.2

D. PROCESS-RELATED RECOMMENDATIONS (cont'd)

III. Recommendations for Intervenor Funding

	4 (Eldorado) 6 (Eastern Arctic Drilling)	6.3 10.(c)	- -

Category of Recommendation	EARP Report		
	Report Number and (Short Title)	Recommendation Number	Section Reference

III. Recommendations for Intervenor Funding (cont'd)

	7 (Lancaster Sound) 8 (Eldorado)	(ii) 4	5.6 7.2.4

IV. Recommendations for Policy or Procedural Change

	1 (Point Lepreau) 4 (Eldorado) 6 (Eastern Arctic Drilling) 15 (Lower Churchill)	3 6.1.1,6.1.2, 6.1.3,6.1.4 9(d) 12	- 6.1 - 5.1

APPENDIX C

INDIVIDUALS INTERVIEWED

M.C. Arnett
Project Construction Manager
Esso Resources Canada Ld.
Calgary, Alberta

Gordon E. Beanlands
Director of Research
Federal Environmental Assessment
Review Office
Halifax, Nova Scotia

D. Bruchet
Manager, Socio-Economic
Assessment
Petro-Canada Resources
Calgary, Alberta

M. Coolican
President, Peters Coolican Asso.
Halifax, Nova Scotia

Robert G. Connelly
Federal Environmental Assessment
Review Office
Hull, Quebec

W.A. Coulter
Environmental Engineer
Nova Scotia Department of
Environment
Halifax, Nova Scotia

D. Daae
Exploration Manager
Consolidex Gas and Oil Ld.
Calgary, Alberta

J. Donihee
Chief, Environmental Planning
& Assessment
Department of Renewable Resources
Government of the NWT
Yellowknife, NWT

P. Duffy
Federal Environmental Assessment
Review Office
Hull, Quebec

Lindsay Franklin
Vice-President, Exploration
Panarctic Oils Ltd.
Calgary, Alberta

J. Hartley
Chief, Management Planning
Parks Canada
Calgary, Alberta

John F. Herity
Federal Environmental Assessment
Review Office
Hull, Quebec

B.F. Leeson
Special Advisor, Natural History
Division
Parks Canada
Calgary, Alberta

C.A. Lewis
Corporate Planning Group
Environment Canada
Ottawa, Ontario

A. Macpherson
Regional Director-General
Environment Canada
Edmonton, Alberta

Dave Marshall
Federal Environmental Assessment
Review Office
Vancouver, British Columbia

J. Pallister
Vice-President
Pallister Resource Management Ltd.
Calgary, Alberta

P.J. Paradine
Federal Environmental Assessment
Review Office
Hull, Quebec

R.J. Paterson
Chief, Marine Habitat Division
Fisheries and Oceans Canada
Ottawa, Ontario

Wynne G. Potter
Director-General
COGLA
Halifax, Nova Scotia

A. Redshaw
Indian Affairs and Northern
Development
Yellowknife, NWT

M.R. Robertson
Manager, Environmental
Assessment
Petro-Canada Resources
Calgary, Alberta

W.A. Ross
Associate Dean
Faculty of Environmental Design
University of Calgary
Calgary, Alberta

H. Rothschild
Director, Office of
Environmental Affairs
Energy, Mines and Resources Canada
Ottawa, Ontario

D. Scarratt
Acting Director
Fisheries and Oceans Canada
Biological Station
St. Andrews, New Brunswick

Paul Scott
Federal Environmental Assessment
Review Office
Vancouver, British Columbia

S. Sherk
Public Affairs
Mobil Oil Canada Ltd.
St. John's, Newfoundland

C. Sikstrom
Senior Biologist
Esso Resources Canada Ld.
Calgary, Alberta

S. Washington
Program Manager
Banff Centre School of Management
Banff, Alberta

G.A. Yarranton
Yarranton Holdings
Calgary, Alberta

S.C. Zoltai
Canadian Forestry Service
Northern Forest Research Centre
Edmonton, Alberta